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ABSTRACT

To gain additional information about how young children actually develop and use literacy before entering school, four young children were studied indepth by means of family questionnaires, reading age tests, diagnostic subskill tests, and miscue analysis. Five months later, the children were again tested to see if reading age had increased and if miscue patterns and reading subskill proficiencies had changed. An analysis of the findings suggests that the more proficient readers (1) were motivated to learn to read because of the intrinsic value of reading rather than because of social expectations, (2) had drives for self-motivated practice and monitoring within the framework of their own creative play, (3) could recognize phrases quickly and accurately, and (4) varied their strategies in accordance with different task demands. The subskill weaknesses exhibited by the less proficient included naming (as opposed to sounding) capital and lower case letters, spelling, and syllabication. (HOD)

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READING STRATEGIES OF FOUR EARLY READERS.

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by

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Allansford
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1 RATIONALE

What strategies are children using when they learn to read? The precept that educational practice should be based on the nature of the child, advocated earlier by Rousseau, Froebel and Dewey, is now given a new empirical basis by the work of Piaget. Isaacs (1974) suggests that many children may fail to learn in classrooms because of an inadequate psychology that misconceives the nature of the young child's abilities of cognition, ignores cumulative living learning and disregards the total role of cognition in human life. School learning should take over children's learning drives and the activities that express them, and then restimulate and strengthen them. School should work with these processes, encourage them and help them forward.

Goodman (1968) was disconcerted to find that too many educational conclusions have been reached by studying bits and pieces of the reading process. Taba (1955) provides the reason -

> "Educational research has usually resorted to two methods of simplification. One is to isolate one element from a larger and more complex context and to study it independent of that context. Another is to limit experimentation and research to those phenomena which can be explained by established concepts of what transpires in the reading process. Both attempts tend to impoverish educational research. Nearly everything that is interesting about learning and teaching is excluded for the sake of precision."

Reseach in child psychology has begun to shift its orientation. More credence is placed on studying a small number of subjects in depth. Piaget has made it respectable to describe the child's own system, and

to allow the child to guide the researcher. Kolers (1969) stated that what is needed are data that illuminate the processes that characterize reading, and that raise questions rather than "prove" theories.

Another reason for a phenomenological approach stems from Barr (1974) who suggested that methods of formal instruction in reading strongly influence the strategies that children use when reading. And Southgate, Arnold and Johnson (1981) found that children take on the view of the task of learning to read that is mediated to them by their teachers. Therefore a study of children who are fluent readers without receiving formal and systematic instruction may provide valuable insights. Reading instruction is gradually coming to be considered in the framework of what the skilled reader can do and the beginning reader is trying to do (Smith, 1973, 1978). So far skilled reader has been equated with adult reader. Smith (1978) notes two things that are perhaps surprising about the skills and knowledge that a child brings with him when he is about to learn to read: the sheer quantity and complexity of his ability, and the small credit he is usually given. If the focus were to be on those who were already reading fluently before they commenced school, additional information might be gained about how children actually develop and use literacy.

Huey (1908) suggested that the study of children who learned to read in early childhood would provide valuable insights. The teacher concerned with very young children and beginning readers has been too little aware of the complexity and range of skills that they bring -

language skills, ability to anticipate probable sequences in print, and appreciation of the invariant nature of the "read" as distinct from the "told" story, together with a high expectancy of interesting experiences from the printed word; are all likely characteristics of the high progress child. But what strategies is he using and what cues are important to him as he attempts to get meaning from print?

The importance of analysing even the beginning reader's response to print has been stressed with evidence of different patterns of miscues between high and low progress children (Clay, 1969). Page (1975) stresses that understanding reading must be built on an understanding of what happens when the reader is interacting with written language, and that reading is a receptive language process that must be studied using insights from linguistic research. Smith (1981) has urged that research ought to be in the direction of a better understading about how and why children learn to read in the first place. He warns that such understanding is unlikely to come from rigorous experimentation under controlled laboratory conditions. Rather there is a need for more information about the manner in which children respond to print long before they receive any formal instruction. This approach is analgous to the studies of spoken language development of infants in that it uses a small number of subjects, has a developmental emphasis and employs error or miscue analysis.

Holdaway (1981) found that the development of early literacy skills is best described within the framework of "play". Pre-school book experience behaviour (especially with favourite books) has the

characteristics of both optimal learning and creative play with exploratory re-enactment from deep meanings to a uniquely personal surface structure. As children ask repeatedly for favourite books to be reread in ritual form, and then move to reading themselves, they recreate the deep meaning of the story in terms of language structure that is in keeping with their current stage of language development. They are playing with the story, the idea of story, and the language of story. This exemplifies self-motivated, self-sustaining behaviour, and lies optimally within arousal levels between boredom and threat. Holdaway (1981) links his play theory of early literacy acquisition to Piaget's theories - assimilation is charcterized by repetitive play and accomodation is characterized by risk-taking, problem-solving and schema modification. Reilly (1974) argues that "in the pure pleasure of doing something for its own sake, explorative behaviour teases and tests reality as the imagination searches for rules." What rules, generalizations, strategies and schemata have been found by children who successfully bring their creative exploratory play to print?

These children may bring strategies and skills that are as worthy of investigation as skill sequences concocted by teachers. Bourque (1980) found more stabilities in hierarchies of reading skills based on children's performance than in those suggested by reading specialists, and Clark (1976) warned that it is dangerous to assume that the way we teach is the way children learn. The existence of young fluent readers who learn to read before formal instruction must lead us to question to what extent and in what ways learning to read is a developmental process, and whether there are essential sequential

steps. It may be necessary to consider whether those steps which are frequently regarded as sequential are so only because of the structure within which we teach reading rather than the pattern within which children learn to read.

This is not to say that early readers and their strategies must be regarded as a paradigm for all readers and reading instruction. But psychiatry and medicine have realised that it is not enough to study sick or abnormal cases to try to understand what factors contribute to their condition . Anthony (1974) explains that a study of the well, the successful, the achiever is also necessary. What factors, symptoms and strategies are associated with invulnerability? Reading research that concentrates on disabled or poor readers does not explain what is needed to be successful.

Instruction based on the assumption that children "know nothing" about print (Goodman, 1979) emphasises young children's deficiencies. We are gradually coming to appreciate the extensive entry knowledge that even average young children bring to learning to read. Skilled young fluent readers may show that many of our assumptions about how reading is learned may not always match with how reading is taught.

It therefore seems important not to ignore the evidence of young fluent readers. Any theory of reading is adequate only in so far as it takes account of children such as these.

2 OUTLINE OF RELEVANT LITERATURE

Two reseachers of early readers have conducted large scale studies on entire populations of 5 year olds in their respective districts.

Durkin (1966) in her Oakland study used an initial test of 37 isolated words followed by Gates Reading Tests for children entering first grade to identify her early readers. She found 1% of this population registered on a grade level scale of 1.5 to 4.5. In her 1961 New York study she used the same word recognition test followed by Gates Reading Tests - Primary Word Recognition and Primary Paragraph Reading Tests, 1958 editions, and also some of Gates Advanced Tests. She found 3.5% of children entering first grade registered on grade level norm scales at 1.3 to 12.5.

Clark (1976) asked schools to submit names of chidren reading when they entered school. Criterion for selection was at least 25 words on the Schonell Graded Word Reading Test, giving a reading age of at least 7.6. She followed this with the Neale Analysis of Reading Ability for prose comprehension and found reading ages from 7.6 to 11.11, and reading comprehension ages from 7+ to 11+. She found that these early fluent readers could define and give examples of a letter, a word, and a sentence.

Other studies of early readers have been on a somewhat smaller scale. Morrison, Harris and Auerbach (1971) found 58 children (representing

4% of those tested) who could read one or more words when they entered first grade. They were compared with matched and unmatched nonreaders. The early reading group were found to have superior abilities in pattern copying, identical forms, phonemes, letter names and learning rate.

Briggs and Elkind have done two studies. In the first (1973) a sample of 16 early readers and matched non early readers were collected by means of advertising in New York. They compared the groups' performances on Piagetian tasks. Early readers were found to have superior abilities in conservation and perceptual decentration. In their second study (unpublished) Briggs and Elkind located 38 early readers by administering Durkin's word screen test to a population of 2,700 children entering kindergarten. A control sample was matched for I.Q., age, sex, classroom and score on the Peabody Picture Vocabulary Test. The early readers were found to be superior at sound blending, reflection, ambiguous pictures and creativity.

Evans and Smith (unpublished) examined certain characteristics of 19 children in South Carolina who read at or above second grade level before they were 6. They were found to have superior abilities in sound blending and visual letter naming skills.

King and Friesen (1972) selected 31 children from kindergarten in Calgary, Alberta, by requesting teachers to nominate possible early readers (out of a total of 4,282). Their early readers were particularly good at visual discrimination, letter names, and word

recognition.

Plessas and Oakes (1964) located early readers in California by administering the California Reading Test to 40 children nominated by their first grade teachers. Those with scores of 2.0 grade level or above were further investigated to discover what their pre-reading experiences had been. Their early readers were characterized as showing early personal interest in print, asking many questions about letters, words and numbers, and having an older reader (parent or sibling) available to answer.

McCracken (1966) reported measures of 8 children nominated by their teachers who were found to be reading in the first weeks of the school year. In addition to these formal studies, there is a report by Mayne (1963) who described 2 early readers who turned up in a kindergarten class, and an intensive observation of a single 5 year old by Torrey (1969).

Linguistic analysis of successful and unsuccesful strategies has been used, but, because of the linguistic detail, involves few subjects. This approach has enabled an in-depth view of what young readers are doing when confronted with text, and allows in-depth debate on strategies, stages and processing in reading.

Read (1971) located reading and writing preschoolers informally and examined their writing and spelling patterns. He found that they were abstracting phonological features and were not attending to

statistical associations between spellings and autonomous phonemes, but rather pair spellings with segments abstractly categorized in terms of a hierarchy of articulatory features.

Ellis (1975) identified early readers by using Durkin's word recognition screening list followed by McCracken's (1966) Standard Reading Inventory. She found that most appeared to use intial and final consonants when trying to identify unknown words in isolation and used the same strategy in context. She claimed most errors occurred with difficult words. Most of Ellis's subjects observed punctuation. The majority sometimes used context plus a variety of additional approaches (e.g., phonic or graphic similarity) and corrected their own errors. When this was not the case, they would continue reading, ignoring errors. Many added or substituted words, but few omitted words. She found repetition of words and phrases to be common. But the Standard Reading Inventory's seven areas of comprehension and/or word attack strategies are extremely gross or vague e.g., "No. 6 - adding, substituting and/or omitting words". Ellis's analysis compounded this grossness by lumping all children's responses in "most often = 75% - 100%, sometimes = 40% - 75%, and, not often = 0% - 40%".

Söderbergh (1971) analysed her daughter's learning to read strategies and found that the child gradually acquired words, then broke them into smaller units, first morphemes, later graphemes, and finally with a full "grapho-phonematic" correspondence was able to read almost any new word. But Soderbergh had systematically set out to teach her two

year old to read according to Doman's (1964) method, so one must question to what extent the child's strategies were a reflection of the sequential and structured teaching.

At beginner level, Clay (1968), Weber (1970), Y. Goodman (1968), and Biemiller (1970) studied various aspects of children's use of one or all of the cueing systems - graphic, grammatical and contextual. Clay's (1968) subjects were aged 5 to 6. They showed an awareness of syntactic constraints with 79% of single word substitutions grammatically equivalent. Weber (1970) found much in accord with Clay, although criteria for syntactic appropriateness focussed on antecedent context alone. It was found that 90% of substitution errors by first graders were totally acceptable syntactically with preceding text. But Clay and Weber used dichotomous forms of error categorization (were substitutions grammatically equivalent? Yes or no.).

Y. Goodman (1968) considered semantic and syntactic strategies in 6 selected young beginning readers. She found that a large percentage of beginning readers' miscues can be explained in terms of semantics and syntax, and that miscues frequently result in grammatically transformed sentences. Syntactic acceptability was found to be usually stronger than semantic. Syntactic structure is thus a rich source of cues. Goodman also found beginning readers aware of graphic relationships, and attempts to produce graphic similarity frequently produced non-words. The children usually knew when they came up with a non-word and modified it on repeated efforts. She also found that

graphic and phonemic miscues increased over the nine months of her study, but these miscues reflected strong phonic generalizations. Goodman thus found that each beginning reader showed a wide variety of strengths and weaknesses and each individual development pattern was different.

Biemiller (1970) suggested three phases of development through which first graders progress in their use of contextual and graphic cues - 1) pre-non-response, characterized by predominant use of preceding context, suggesting less concern for accurate processing of the graphic display confronting the child. At this stage only 19% of substitutions were graphically similar, but 74% were contextually appropriate; 2) non-response, characterized by significant increase in non-response errors to 38%, indicating influence of graphic constraints. Contextually appropriate errors were similar to phase one at 76%; and 3) co-occurrence of graphic and contextual constraints, with 70% of graphically constrained errors also being contextually constrained. There was also a significant increase in contextually appropriate errors to 83%. From a developmental perspective Biemiller found that the more proficient readers moved into the non-response phase much earlier than the less proficient, and that subjects who stayed in the first stage were the poorest readers.

Kirby, Moore and Cousins (1979) question the validity of inferring reading strategies from the oral reading of children already in formal schooling. Oral reading in the typical classroom stresses graphic detail accuracy and syntax, but is not often used for meaning. Not

much attention yet seems to have been paid to investigating preschoolers' reading behaviour with detailed analysis to infer what strategies the children are using.

One of the few researchers who has explored the reading competencies of preschoolers in Jana Mason (1980) who examined the development of 4 year old children's knowledge of letters and printed words to determine if preschool children were beginning to read, and, if so, how. Mason's methodology included questionnaire, observation and testing on word recognition and spelling. She found evidence of a hierarchical ordering of reading knowledge. Context dependency occurs first after leaving the non reading state, and the children attend mostly to overall visual clues rather than to letter information. With mastery of letter names and alphabet, the second state of visual recognition occurs, where the children seem to be learning to analyze words into letters. The third stage in Mason's hierarchy involves letter-sound analysis where children were able to read multi-syllable words, learn new words at a rapid rate, and able to read stories to themselves.

Mason's is a skills hierarchy position and would lead to a distinguishable sequence. Hiebert (1981) suggests an alternative view - a unified stage position. Her study supports the view that children do not seem to gain information about print in a uniform, linear sequence, but rather learn about various aspects of written language from environmental experiences which provide information about print in a meaningful way. The result is that development of reading is in

general stages with skills (e.g., letter and word recognition) and concepts (e.g., processes and purposes of reading) occurring simultaneously on numerous dimensions, and so interwoven that all concepts and skills emerge together.

Two issues are interwoven thoughout the literature - 1) how children learn to read in the first place, and 2) the way children respond to print before they receive formal instruction.

Children who read before school are rarely described in beginner stage. Beginner readers usually include preschool and kindergarten children.

The following summaries try to tease out the differences of these interwoven strands and main trends. It is difficult to separate the issues, but this study emphasises point 2) above, while not ignoring point 1).

TABLE 1

LITERATURE SUMMARY OF CHILDREN WHO READ BEFORE RECEIVING FORMAL INSTRUCTION.

RESEARCHER/AUTHOR	CHILDREN'S ABILITIES
Durkin (1958)	Reading at grade level 1.5-4.5.
Durkin (1961)	Reading at grade level 1.3-12.5.
Clark (1976)	Reading ages 7.6-11.11. Could define and give examples of a letter, a word and a sentence.
Morrison, et. al. (1971)	Good at pattern copying, identical forms, phonemes, letter names and learning rates.
Briggs and Elkind (1973)	Better at (Piagetian) conservation and perceptual decentration.
Briggs and Elkind (unpub)	Better at sound blending, reflection, ambiguous pictures, creativity.

Evans and Smith (unpub)	Good at sound blending, visual letter memory.
King and Friesen (1972)	Good at visual discrimination, letter names, word recognition, learning rate.
Plessas and Oakes (1964)	Personal interest in print, asking questions about letters, words, and numbers.
Mayne (1963)	Good at word discrimination, verbal meaning, superior intelligence.
Read (1971)	Abstracting phonological features, pairing spelling with segments categorized in terms of a hierarchy of articulatory features.
Ellis (1975)	Used initial and final consonants, observed punctuation, used context plus a variety of approaches.

TABLE 2

LITERATURE SUMMARY OF CHILDREN AT BEGINNER READING LEVEL.

RESEARCHER/AUTHOR	STRATEGIES AMD SKILLS
Söderbergh (1971)	Acquired whole words first, then broke them into morphemes, then graphemes.
Clay (1968)	Substitutions grammatically equivalent.
Weber (1970)	Substitutions grammatically acceptable with preceding text.
Y. Goodman (1968)	Miscues frequently result in grammmatically transformed but acceptable sentences; syntax rich source of cues; aware of graphophonic relationships; non-words usually modified; graphophonic miscues increased in number and

	complexity over time. Used phonic generalizations. Each beginner showed different pattern of development.
Biemiller (1970)	Pre-non-response with free use of context. Non-response - influence of graphic constraint co-occurrence of graphic and contextual constraints. Proficient readers move through stages quicker. Subjects who stayed in 1st stage were poorest readers.
Mason (1980)	Hierarchical ordering of reading knowledge. First context dependency with overall visual clues. Then mastery of alphabetic letter names and analysis of words into letters. Thirdly, letter sound analysis of multi-syllable words. Can then learn new words at rapid rate.
Hiebert (1981)	Concepts about reading processes, purposes and conventions increases

significantly over preschool period. Skills of letter naming, visual and auditory discrimination grow also. Concepts and skills not acquired in a distinguishable sequence. Early part of the preschool period particularly active for print related learning.

3 METHODOLOGY

Four children who had learnt to read before attending school or receiving formal instruction were identified through answers to a request in a letter to the editor in the local newspaper (see Appendix A) in early September. Two children (Michelle and Daniel) attended preschool twice a week, and two children (Melanie and Jennie) were in prep. class. The latter two were included because their teacher (the mother of one of them) realised they could read before school started, and instead of giving them regular reading lessons, "just let them read". It was therefore assumed that their reading strategies would be minimally contaminated by the influence of whatever formal lessons were given. Furthermore, the school books available to be read were the remnants of such a wide variety of reading schemes that even they could not be considered as supporting a consistent, coherent method of formal instruction. There was no attempt to study the reading development of all children in their preschools or classes, or any group of children. Determining how wide-spread these phenomena are was not within the scope of this study.

All four subjects were visited and tested individually, and personal case profiles were built up (Appendices B,C,D,E). Each of the children was given the Schonell Word Recognition Reading Test and the Daniels and Diack Standard Reading Test to objectively establish that

they were reading well enough to register on these tests, and to determine reading ages. Both tests were used as Schonell's norms were Australian and Daniel and Diack's British.

In order to establish whether they had had instruction as distinct from informally requested help, each child's parents were asked to fill in a family questionnaire. This took the form of Durkin's (1966)New York Family Questionnaire, section VII Preschool Teaching and Learning, and section X Personality Characteristics. Although this study focusses on the child's responses to print, this does not minimize the importance of background of the child. These areas were given less emphasis in this study to delimit the research.

To observe how the children were operating with various kinds of input and to become aware of their strategies in reading, Goodman and Burke's (1972) Reading Miscue Inventory Kit was used. This seems the most comperhensive tool for investigating reading strategies available. Yet there are difficulties to be overcome.

The first step, choosing an appropriate selection for subjects to read, is easier said than done. Burke (1973) herself says that "most of our notions concerning complexity and readability are so vague as to leave us helpless when examining a piece of reading material". Goodman and Burke's Reading Miscue Inventory Manual recommends a selection must generate a minimum of 25 miscues, "and the selection must be difficult enough so that miscues will be made, but not so difficult that he will be unable to continue independently". Anderson

(1981) observes that once readers have gained a certain reading proficiency, although they continue to make miscues, these tend to be relatively few in number and of a minor kind, even when the material is well beyond their normal comprehension level. There is thus a problem of how to choose passages difficult enough to generate sufficient miscues, but not so far above the subjects' reading level as to affect the strategies that readers use. Kibby (1979) found that difficulty of a passage had a significant effect on reading strategies used, changing the pattern of miscues.

It was not in keeping with the purpose of this study that all children had to read the same materials. Stories were chosen because it was felt they matched both reading ability and interest levels. The first story in Goodman and Burke's Sample Stories for Taping "A Day at Home" was considered suitable for Michelle's initial testing. Passages selected for Daniel, Jennie and Melanie posed more of a problem. Stories were selected with an animal theme thought to be more appropriate to younger children, but with fairly complicated vocabulary. If the first story did not generate at least 25 miscues (considered the minimum to make meaningful inferences from) then a second story was presented to the child. Two stories for each testing session were used for these three very proficient young readers and the final pattern of miscues is a composite of their strategies over 2 stories.

Anderson (1981) suggests another way around this problem would be to use a modified form of cloze procedure, whereby highly redundant words

are deleted, and the reader attempts to replace them as the passage is read. He claims this procedure would discriminate effectively with fluent readers without requiring subjects to read passages that are too difficult for them. This method may provide data on sampling, predicting, testing and confirming, but was not used as it would not throw much light on word attack strategies.

In their first oral reading and taping sessions, Jennie, Melanie and Daniel each read "The Old Man, His Son and the Donkey" and "Name of the Tree". The children were asked to read the whole story as best they could and they were told that there would be questions about the story afterwards. The readers were told no help would be given, so if there were problems they should do the best they could to work them out. If all else failed, they should skip the word and go on. While the oral reading and taping sessions were in progress, an initial marking on the child's worksheets was made.

After finishing reading an entire selection, each child was asked to retell the story in his or her own words. No leading questions were asked, but probes were made until the child offered as many details of plot, character and description as could be recalled. These were also marked on the worksheets and taped for later analysis.

Later the tapes were replayed, worksheet marking confirmed and/or re-evaluated, and a total marking of miscues and retelling completed (see worksheets in Appendices B,C,D,E).

The Reading Miscue Inventory assumes that reading involves the interaction of three language systems: 1) semantics, 2) grammar and 3) graphic-sound symbols. Meaning (the semantic system) is considered the essence of the reading process, while the other two language systems are the vehicles for the transmission of ideas, information and feelings between writer and reader. After all deviations between oral response and printed page had been recorded on the story worksheets, this information was organized and entered on the Reading Miscue Inventory Coding Sheets. This taxonomy provides a number of questions to be asked about each miscue, each of which is answered on its own merits without the analyst being forced to choose between possible cues and causes. Indeed, in any individual miscue, it is rare that one can say with strong assurance what exactly has taken place. But the patterns which emerge produce a picture in depth of the reading process. This information was then computed into percentage form to graphs on the Reader Profile Sheets.

A further problem with using the Reading Miscue Inventory with fluent readers, even very young ones, is the marking and coding of repetitions. Goodman and Burke count repetitions as miscues, even those that occur when anticipating a difficult word. Daniel often repeated words and whole phrases. These did not involve intonation corrections, but were hesitant beginnings, pauses while he scanned the following words, and more confident repetitions. Following the manual's instructions that such repetitions are miscues (p.31) they were accordingly marked on the coding sheet as graphically phonetically and grammatically similar (in fact, the same, as the

text) miscues. Where whole phrases were repeated they were marked on the coding sheet as one complex miscue (p.45). But Holdaway (1981) points out that false starts and repetitions are automatic predictive devices which act as time fillers while the reader is engaged in consciously organizing the coming structure - a type of advance organizer. He observes that such a device is a useful strategy when confidence is low or when text becomes difficult. He concludes we should not interpret this as an inaccuracy or error. This sort of repetition is not an example of using cues to decode words, and throws no light on word identification strategies. A recount of Daniel's miscues thus seemed appropriate, excluding such repetitions, and a revised version of strategies follows the standard version of Daniel's profile in the results.

Further probes into individual strengths and strategies were attempted with the Gates-McKillop Reading Diagnostic Test Form I (1962). Twenty different tests try to isolate and measure different reading skills; such as oral reading, words: flash presentation, words: untimed presentation, phrases: flash presentation , knowldge of word parts, recognition of the visual form or word equivalents of sounds, auditory blending, oral vocabulary, syllabication and auditory discrimination. All subtests were administered to each child to try to ascertain what particular skills were undeveloped and which were matured to a normal or superior degree. The Gates-McKillop Reading Diagnostic Tests manual also contains tables of (American) norms, representing the average grade scores to which raw scores correspond.

Raw scores and grade norm scores for each subtest were entered on the Pupil Record Booklet. Grade scores can be translated into age scores using table II. When subtest scores are compared with general reading ability, it is possible to ascertain which particular subskills the child is proficient or deficient in, in relation to the norms for that reading abililty. Although the norms are American, they are internally consistent. Meaningful conclusions may be reached that are valid in internal relationships. Absolute scores may not be as important as relative strengths and weaknesses.

Individual reading profiles then show a pattern of skills and strategies. Conclusions can be drawn about how each child attacks the reading process. Furthermore, individual patterns can be compared to see what the more proficient readers were doing differently from the less proficient.

Five months later at the start of the school year, the children were again tested to see if 1) reading age had increased; 2) miscue patterns have changed; and 3) reading subskill proficiencies had changed.

Daniel, Jennie and Melanie read "Zoo Doctor" and "Why the Parrot Repeats Man's Words" from the Reading Miscue Inventory "Stories for Taping", and Michelle read "The Old Man, His Son and the Donkey". The Gates-McKillop Reading Diagnostic Tests Form 2 were used. The two forms contain comparable material of equivalent difficulty. Where the children had gained perfect or near perfect scores in the first

testing, these tests were not given again as ceilings had been reached.

This research is thus a pilot study to describe reading processes in selected early readers. Evidence will be viewed in the light of models of reading acquisition. It is expected that a variety of strategies (e.g., graphophonic, decoding, use of syntax, use of semantics) will be used by each of the young readers, and that individual differences in skill mastery and use patterns will be found. If this is the case, it may be viewed as further evidence for models of reading acquisition that look more like oral language acquisition with mastery of phonemes and syntax occurring alongside each other and supporting each other. As a pilot study it may also help establish a methodology for further investigating the development of reading before school.

3.1 Assumptions of the Methodology.

1) Acquisition of knowledge (subskills such as fast word recognition or phonological recoding) does not necessarily imply its use in a particular situation (reading) especially when that situation may have processing requirements very different from those of the task used to tap them. Thus it is not enough to know how skilled a reader is in various reading subskills. It is important to know if and how these are used in the actual reading task.

2) Careful descriptive analysis of oral reading will provide basic insights into how the child processes information in reading.

3) Miscues are more important than accurate responses because the latter mask the complexity of their attainment. Miscues and errors point directly to how information is being used or misused in reading.

4) Oral reading and silent reading are separate processes. But due to the inability of scientific research to study the cognitive processes taking place within the human being directly, oral reading provides a window into the reading process.

3.2 Limitations of the Methodology.

1) Small number of subjects selected. Therefore results can only be applied to the subjects studied. No generalizations can be inferred to a wider population.

2) Only oral responses were studied intensively. Therefore other areas which influence reading development e.g., materials, environmental, physical and personality factors, will only be dealt with superficially.

3) Short time lapse between first and second testing rounds. No differences in measures on reading tests are truly reliable with time spans of less than twelve months.

4 RESULTS

4.1 In September 1981 Daniel was given the Daniels and Diack Standard Reading Test. At this time his chronological age was 4.6. He scored the maximum possible raw score, giving him a reading age of at least 9.1. The Schonell Word Recognition Reading Test was also given at this time. Daniel scored 46, and according to Schonell's norms, this is equivalent to a reading age of 9.6.

The Gates-McKillop Reading Diagnostic Test Form 1 for oral reading produced a total raw score of 28, which translated into their grade level 5.1 and cross-referenced in their manual chart to a reading age of 10.3. In the first four paragraphs no words were omitted, inserted or repeated. The only error was "you" substituted for "he" in the last sentence. Although graphophonically different, it was semantically and grammatically acceptable. Errors recorded in later paragraphs were whole words which were unfamiliar and produced hesitations of more than five seconds, so were pronounced for him.

The Flash Presentation of Whole Words, Gates-McKillop Test II, resulted in a raw score of 28, which is the norm for children at grade level 4.4, age 9.7. One word was incorrectly named ("poison" for "position"), the remaining eleven errors produced the response "don't know".

Test III Words:Untimed Presentation gave exactly the same grade level

and age, computed from a raw score of 60, as the flash presentation.

But Phrases:Flash Presentation, Test IV, produced a perfect score of 26. According to Gates-McKillop's norms for this test, a perfect score is not usually achieved till grade 5.4, age 10.6.

Daniel's knowledge of word parts also helped him score the maximum possible raw scores in Tests V-I Recognizing and Blending Common Word Parts (to make nonsense words), V-2 Giving Letter Sounds, V-3 Naming Capital Letters and V-4 Naming Lower Case Letters. In giving letter sounds Daniel gave the short sounds for all the vowels. Gates-McKillop found in compiling their table of norms that a raw score of 21 in Test V-I Recognizing and Blending Common Word Parts (to make nonsense words) was not usually achieved till grade 6.0, or age 11.2.

Perfect raw scores were also achieved for recognizing the visual form of sounds. According to Gates-McKillop's norms, a raw score of 19 is not usually achieved till grade level 5.6, age 10.8 for Test VI-I Nonsense Word Recognition, till grade level 4.2, age 9.2 for Initial Letters Test VI-2, and till grade level 4.0, age 9.0 for Final Letters, Test VI-3. Daniel correctly identified all vowel sounds in Test VI-4, but this is not the norm till grade level 5.0, age 10.2.

Auditory blending, Test VIII, resulted in a perfect raw score of 15, which is not achieved by most children till grade level 4.6, age 9.6.

The Supplementary Tests of Gates-McKillop were also given. Daniel tried to spell 38 of the 40 test words and correctly spelt 20. This raw score is the norm for grade level 5.4, age 10.6. It is also interesting to note that in words incorrectly spelt, he usually got the first and last sections correct e.g., SHEPRD for shepherd, ELEGNT for elegant, TEMPTURE for temperature. In these examples middle letters were left out.

Although Daniel scored 9 in the Oral Vocabulary Test, giving him the equivalent to children at grade level 4.1, age 9.3, his errors are also note-worthy e.g., item 21 "To flounder is to i) giggle, ii) fish, iii) struggle or iv) gloat". The correct answer "struggle" was missed, but Daniel knew the word as a fish. Similarly item 13 "To magnify is to make i) unhappy, ii) smaller iii) darker or iv) bigger." Daniel chose "smaller" knowing it had to do with relative size changes.

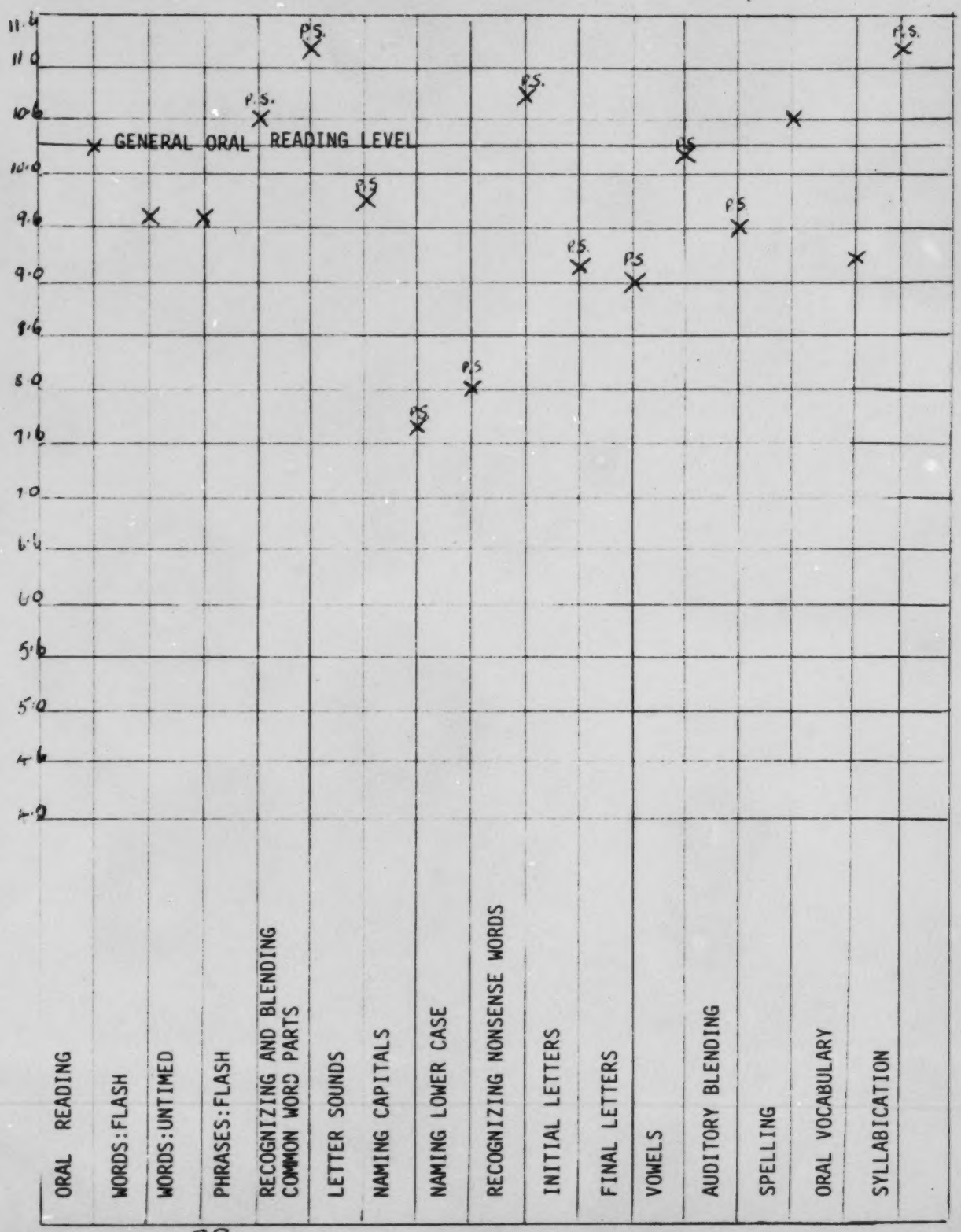
Another perfect raw score was achieved in Test VIII-3, Syllabication, where Daniel was required to blend syllables into nonsense words. Gates-McKillop found that most children were not perfectly efficient at this task till grade level 6.0 or age 11.2.

The graph following shows Daniel's results in the Gates-McKillop Reading Diagnostic Tests Form 1 with subskills expressed as the average age for which his raw scores are the norm. Subskills (which are not perfect scores and therfore ceilings) in which he scored below his general oral reading ability were words:flash presentation and

untimed, and oral vocabulary. Subskills which were above his oral reading level were phrases:flash presentation, recognizing and blending common word parts, recognizing nonsense words, spelling and syllabication.

TABLE 3

DANIEL'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 1, WITH SUBSKILLS EXPRESSED AS THE AVERAGE AGE FOR WHICH HIS RAW SCORES ARE THE NORM.



P.S. =Perfect Score

Five months later just before school started, Daniel was again tested. As he had gained a ceiling score in the Daniels and Diack Standard Reading Test this was omitted. In the Schonell Graded Word Reading Test he correctly pronounced 76 of the words, giving him a reading age of 12.6 on Schonell's norms. This represents an increase of 3 years.

The Gates-McKillop Reading Diagnostic Tests Form 2 were used for the retesting session. Only those subtests in which Daniel gained less than a perfect score in form 1 were given.

In general oral reading Daniel gained a raw score of 29, which is the norm for children aged 10.5 or in grade 5.3. This represents an increase of only one point in the raw score, and 2 months in reading age (compare with the Schonell test increase). Daniel made only one error in the first four paragraphs, when he inserted an acceptable word to make the sentence flow more closely to expectation - "He feared /that\ the cat would be mad."

The Flash Presentation of Whole Words, Gates-McKillop Test II, resulted in a raw score of 33, which is the norm for children at grade level 5.0, age 10.2. This represented an increase in raw score of 5, and age norm increase of 7 months. All words but one were attempted this time (compare form 1 when 11 were passed over with "don't know".). Of the words attempted but missed, most were very close approximations e.g., "family" for "familiar" and "refresh" for "reference" have accurate beginnings, but different endings: "conservation" for "conversation" shares the same visual pattern,

beginning and ending, with only the second syllable reversed. Two words were more mispronounced than wrong, with a "k" sound in "musician" and the first syllable of "courage" pronounced as "core". These could have been his usual pronunciation for these words, but as no articulation deviations had ever been noted, they were marked wrong. This represents a change in style from the previous testing, but could simply reflect that form 1 test was taken with unfamiliar materials and person, whereas, by the time several visits had occurred, the form 2 test was undertaken in more familiar circumstances.

Test III Words:Untimed Presentation gave a raw score of 69, age level 10.5, grade level 5.3. All words were attempted (again compare the passing over with "don't know" in form I), and many that were incorrectly identified in Test II were substituted with the same mistakes even though unlimited time was allowed in Test III e.g., "musician, conversation, courage, familiar". Also all incorrectly pronounced words were very close approximations with only slightly different emphasis or vowel shift in one syllable e.g., "discIpline" for "discipline", "trIbutary" for "tributary", "dignifee" for "dignify".

Daniel tried to spell all 40 words asked for in Supplementary Test VIII-I, and of these he correctly spelt 24. This is the norm for children in grade 6.4, age II.8, and is an increase of 4 in raw score, and 14 months in norm age. Similar to his attack in form I, his errors usually involved only middle syllables with beginnings and

endings correct e.g., "BILUD" for "build", "CREUL" for "cruel", "SUSPISON" for "suspicion" and "REFANCE" for "reference". Although Daniel mispronounced "tributary" in untimed and flash presentation with the long I sound, he was able to correctly spell it. Three errors involved interchanging "C" and "S" with their various hard and soft pronunciations giving "CONCQUENTLY" for "consequently", "SELEBRATION" for "celebration" and "SERTIFFICT" for "certificate."

Although Daniel scored 10 in the Oral Vocabulary test, giving him the equivalent to children at grade 4.7 level, age 9.10, his errors reflect interesting and intelligent study of word parts. "Defence" as a meaning for "fortitude" instead of "courage" shows a knowledge of relationships and would be close within the meaning network. His choice of "unconscious" for "insensate" is close to "insensible" and shares a common meaning of without physical sensation. This score represents an age norm rise of 7 months.

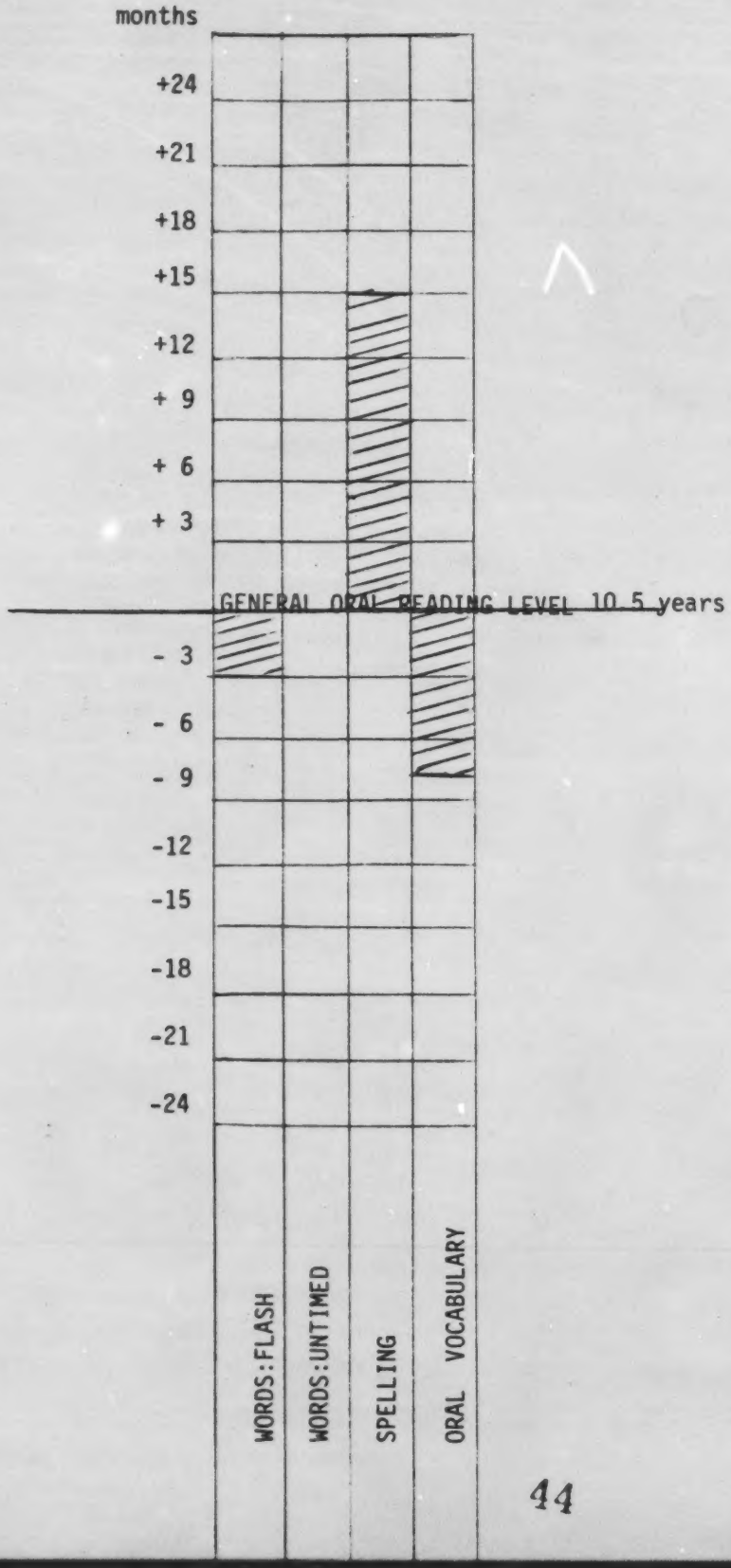
Even though a slight increase in Tests II and III were recorded, subskills which are still below his general oral reading level are words:untimed, words:flash, and oral vocabulary. A subskill that remains much higher than his general oral reading is spelling ability. The pattern of Daniel's subskill strengths and weakness thus remains basically similar over the 5 month period between testing and his reading age has risen only slightly.

The following graph shows Daniel's results in the Gates-McKillop Reading Diagnostic Test Form 2 with scores expressed in age norms

above and below his general oral reading ability.

TABLE 4

DANIEL'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 2, WITH SUBSKILLS EXPRESSED AS THE AVERAGE AGE FOR WHICH HIS RAW SCORE IS THE NORM.



To further understand Daniel's reading strategies the Goodman and Burke Reading Miscue Inventory was used. In the first testing session 39 miscues were recorded from 2 stories (15 in "The Old Man, His Son, and the Donkey" and 24 in "Name of the Tree"). Of these miscues approximately half 19/39 could be analyzed for his use of graphophoic cues, the remaining half being omissions or insertions.

6 of Daniel's miscues could be categorized as bearing strong sound similarity to the text. This represented 30% of those able to be thus analyzed. 4 of these were corrected repetitions after initial hesitance, and one was an expansion of a contracted word. The other miscue bearing strong sound similarity ("felt" for "fell") was corrected also. A further 6 miscues bore partial sound similarity. "Her" for "their" was not corrected, but no grammar or semantic violations had occurred. Only two sound-similar miscues that did partially weaken grammatic and semantic relations remained uncorrected - "started" for "stared" and "life" for "live". By contrast 8 miscues or 40% bore no relationship to sound at all. "He" for "Cat", "I" for "you" and "of" for "into" were corrected as meaning was lost. But "The Turtle" for "he" was not corrected as it was the correct referrent. Other miscues that bore no sound similarity were overcorrected on later context cues e.g., "one of..." corrected to "said one of...".

Strong graphic similarity was found in 40% of miscues able to be thus categorized. "Started" for "stared", and "we will" for "we'll" are only one letter different, in the middle of the word. "Felt" is only

one letter different from "fell" and shares the overall word shape. As with phonically similar miscues, four of those with high graphic similarity were repetitions after initial hesitancies. Of the 25% of miscues that bore partial graphic similarity, Daniel reversed the word order of phrases e.g., "said the old farmer" instead of "the old farmer said", or repeated a phrase to include an omitted word e.g., "men in a field" corrected to "some men in a field". The only uncorrected graphically similar word was "life" for "live". Again first and last letters are the same, but the overall word shape is different. 35% of miscues were not at all similar in graphemes to the text. When these did not violate grammar or semantics Daniel left them uncorrected. "He" is very different from "the Turtle" but was left uncorrected. "He" for "Cat" is more alike (one short word) but was corrected because it was not the correct referrent and some meaning had been lost.

It is interesting to note Daniel's attack on the name of the magic tree - a nonsense word of several hyphenated syllables - "A-nan-ul-fay-dee-ma". First time encountered he was reluctant to even try it, but after encouragement and reassurance that it was only a make-up word he spelt it out alphabetically - strong graphic similarity. In later encounters he quickly transferred to sound relations syllable by syllable, with greater confidence and clearer enunciation each time. This attack was also evident in hesitations and repetitions e.g., "foolishness" that were categorized as bearing strong graphophonic relations with the text.

Not one of Daniel's miscues was grammatically inappropriate. 25% were categorized as partially grammatically acceptable, and most of these were self corrected e.g., "came a man" to "saw a man". Identical grammatical function was found in 75% of the miscues.

Approximately half of Daniel's miscues were insertions or omissions (20/39). All were grammatically acceptable e.g., "in /the\ back of", "make him our /own\ king", "tried and tried", "Oh! Oh!" Insertions were attempts to make the story smoother and more naturally flowing e.g., "the two of you /are\ up there", "went on /and on\" or to increase the dramatic impact e.g., "Look! /Look!\" The words that Daniel omitted were not unknown or unfamiliar words. He had already shown he could read these words competently e.g., "tried and tried", "remember it". Words omitted were redundant or implied in preceding text.

Daniel corrected 32% of his miscues, and his total comprehension score was 99%. The remaining 1% was scored as partial comprehension loss.

In the retelling, Daniel was not very forthcoming. For "The Old Man, His Son and the Donkey" he scored 12, and for "Name of the Tree" 26. This gave Daniel a total retelling average of 19.

It is worth noting that at the time Daniel did these reading tests, he was almost due to go into hospital for corrective eye surgery, and he was encountering physical co-ordination difficulties.

The following table is taken from a Reading Miscue Inventory Reader Profile Sheet expressing grammatical relationships, comprehension, and sound/graphic relationships use as bar graphs. A revised and adapted version of Daniel's miscues (not counting repetitions) is to be found following the standard version.

TABLE 5

READING MISCUE INVENTORY READER PROFILE

TABLE 5

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Reader DANIEL Date SEPTEMBER 1981 Selection THE OLD MAN, THE SUN AND THE DONKEY

Teacher _____ Class _____ School NAME OF THE TREE

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss to Partial	99
Comprehension Loss to Comprehension Loss	1
Comprehension Loss	0

Reader's Use of Reading Strategies:

- [x] Highly Effective
- [ ] Moderately Effective
- [ ] Some Effective
- [ ] Ineffective

Percentage Line: 0 10 20 30 40 50 60 70 80 90 100

NO LOSS 99%

PART LOSS 1%

Frequency Line

RETELLING SCORE 19

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Some	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60	60	60	60	60	60
50	50	50	50	50	50	50	50	50	50	50	50	50
40	40	40	40	40	40	40	40	40	40	40	40	40
30	30	30	30	30	30	30	30	30	30	30	30	30
20	20	20	20	20	20	20	20	20	20	20	20	20
10	10	10	10	10	10	10	10	10	10	10	10	10

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

READER PROFIL

© Carolyn L. Burke and Yetta M. Goodman 1972

Reader DANIEL Selection REVISED FIRST TESTING OMITTING REPETIONS

Teacher School

Date Class

TABLE 6

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss to Partial Comprehension Loss to Comprehension Loss	99% 0.5% 0.5%

Reader's Use of Reading Strategies:

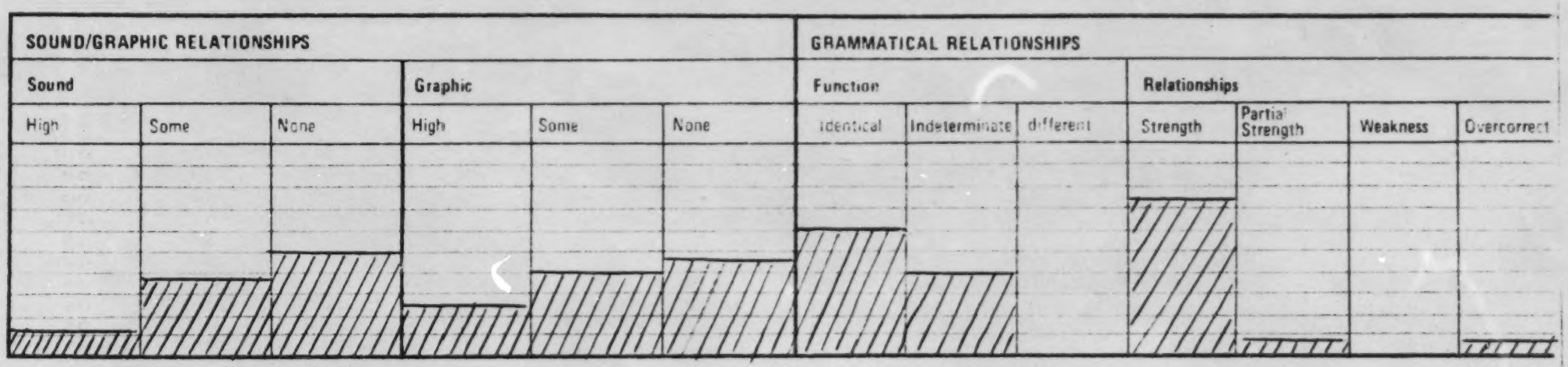
- Highly Effective ☐
- Moderately Effective ☐
- Some Effective ☐
- Ineffective ☐

0 10 20 30 40 50 60 70 80 90 100

NO LOSS 99%

Frequency Line

RETELLING SCORE _____



Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

Goodman and Burke's Reading Miscue Inventory was again used after 5 months. 49 miscues were recorded for Daniel from 2 stories (18 in "Zoo Doctor" and 31 in "Why the Parrot Repeats Man's Words"). Of these 35 could be analyzed for use of graphic, phonic and grammar cues, the remaining 14 being omissions or insertions.

Strong graphic similarity was found in 25 miscues representing 64% of those able to be categorized. Repetition after initial hestitancy accounted for 11 of these. Other very similar words included "wiped" with the short "i" sound, "merrily" for "merely", "lorilkeet" for "lorikeet", "severly" for "severely" and "conviced" for "convinced". Beginnings and endings mostly agreed with the target word, while there was a slight mispronunciation in the middle. 25% of Daniel's miscues were partly similar in graphemes. These included a reversal and part change of "had said" to "said he", and reversing the middle syllable of "innocent" to "inconsent". "Ran" began with the same letter as "reached", but was semantically inappropriate and was self corrected. A miscue that began with a different letter was "mathematics" for "arithmetic", but partial graphemic similarity comes in later sections of the word. No graphic similarity was evident in 5 or 11% of Daniel's substitutions. "Then" for "at the hospital" is very different but is an acceptable sentence beginning and does not really disturb the story flow. This was left uncorrected. Another very different looking miscue was also left uncorrected - "to" for "in" - but this was semantically and grammatically acceptable. However, "may" for "was" and "the" for "it was" were corrected.

15 of Daniel's miscues bore strong sound similarity to the text. Most of this category were either words sounded out syllable by syllable and then repeated e.g., "en..dan...endan...gered...endangered" or whole phrases pronounced hesitatingly and then repeated e.g., "have you seen...have you seen". 45% of Daniel's miscues sounded partially similar to the target words. Sometimes he correctly pronounced beginnings and endings, but middles were incorrect e.g., "assept" for "accept", "flowing" for "following". 13% of Daniel's miscues involved no sound similarity at all. These included "any" for "my" which was more graphically similar than phonically. "To" was substituted for both "long" and "in". In the first instance it was corrected to fit the semantic and grammatic constraints of the sentence, but was left uncorrected in "turned in /to his direction".

Not one of Daniel's miscues was grammatically inappropriate. 40% were only partly grammatically acceptable and most of these were self corrected e.g., "have to" corrected to "have long to", "may" to "was the" and "ran" to "reached". Identical grammatical function was found in 60% of Daniel's miscues.

14 out of Daniel's 35 miscues were insertions or omissions. All but one were grammatically acceptable. Perhaps the verb was omitted from this sentence because Daniel was concentrating on anticipated difficulty with the next word - "The neighbor was perplexed". Words omitted were not unknown or too difficult e.g., "but", "it", "have to", but were redundant or implied. Words inserted were often an improvement to the flow of the text e.g., "inside /it\" and "from

/their\ head to foot".
^

Daniel corrected his miscues 50% of the time, and his total comprehension score was 64%, with partial comprehension in 36%. One miscue in "Why the Parrot Repeats Man's Words" involved comprehension loss when Daniel omitted the verb and sounded out the next word in parts - "the neighbor was per-plex-Ed". This is less than 1% of the total over 2 stories, and no comprehension loss was recorded in "Zoo Doctor".

Strength in use of grammatical relationships was evident in 17 or 36% of Daniel's miscues, partial strength in 6%, and 14 or 28% showed Daniel used syntax to the point of overcorrection. The remaining 15 or 30% indicated a weak use of grammatic relationships.

The following tables are from the Reading Miscue Inventory Profile Sheets, and express Daniel's use of grammatical relationships, comprehension, and graphic/sound relationships use as bar graphs. A revised and adapted version of Daniel's miscues (omitting repetitions) follows the standard version.

TABLE 7

READING MISCUE INVENTORY READER PROFILE

TABLE II

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Reader DANIEL Date FEB 1982 Selection ZOO DOCTOR AND WHY THE PARROT REPEATS MANY WORDS

Teacher _____ Class _____ School _____

TABLE 7

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss to Partial	64
Comprehension Loss to Comprehension Loss	36
	0

Reader's Use of Reading Strategies:

- Highly Effective ☑
- Moderately Effective ☐
- Some Effective ☐
- Ineffective ☐

Percentage Line

0 10 20 30 40 50 60 70 80 90 100

NO LOSS 64% | PART LOSS 36%

Frequency Line

RETELLING SCORE 13

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Som	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70	70	70	70
60	60	60		60	60		60	60	60	60	60	60
50		50		50	50		50	50	50	50	50	50
		40		40	40			40		40	40	40
		30			30			30		30		
		20			20			20		20		
								10				

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

READER PROFIL

Selected REVISED SECOND TESTING
OMITTING REPETITIONS

Reader DANIEL
Teacher

Date
Class
School

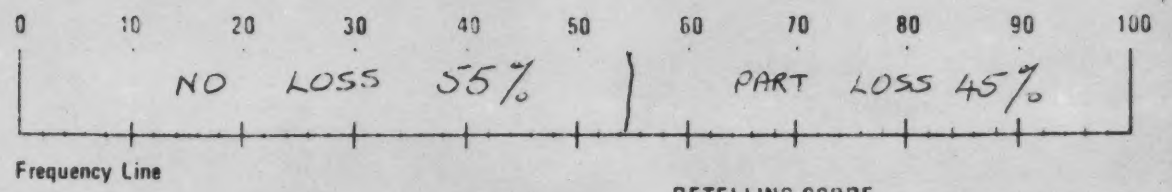
TABLE 8

COMPREHENSION PATTERN

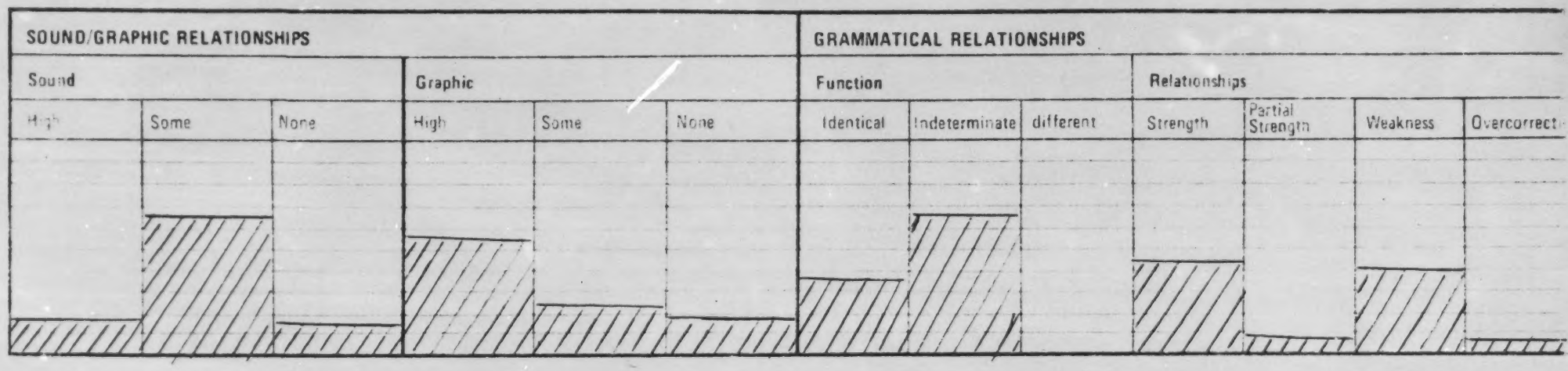
Percent of relationships of No Comprehension Loss to Partial Comprehension Loss to Comprehension Loss 55% 45%

Reader's Use of Reading Strategies:

- Highly Effective ☐
- Moderately Effective ☐
- Some Effective ☐
- Ineffective ☐



RETELLING SCORE _____



Repeated and Multiple Miscues

Teacher	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

4.2 In September, 1981 when Jennie's chronological age was 6.2 she gained a raw score of 126 on Daniels and Diack Standard Reading Test, giving her a reading age of 9.0. On the Schonell Word Recognition Reading Test she gained a raw score of 39, which also translates to a reading age equivalent to the average 9 year old.

The Gates-McKillop Reading Diagnostic Tests were also given. In oral reading Jennie read all seven paragraphs, with a total raw score of 28. According to Gates-McKillop's norms this is the average for a child aged 10.3 or in grade 5.1. No errors occurred in the first four paragraphs.

In Test II Words:Flash Presentation Jennie attempted all 40 and named 30 correctly. This is the norm for those aged 9.8 at grade 4.5 level. The 10 words not correctly identified were nevertheless close approximations e.g., "poison" for "position", "lamation" for "lamentation", "infection" for "affectionate". Several syllables in each were correctly identified, but an error occurred by leaving out a section of a multi-syllable word.

A raw score of 68 was obtained in Words:Untimed Presentation, Test III. This is the norm for children aged 10.4 at grade level 5.2. Several words missed in the flash presentation were correctly identified in this test where Jennie had time to work them out e.g., "lamentation", "satisfactory" and "superstition" were all correctly pronounced with syllable by syllable blending.

Jennie scored the maximum possible in Test IV Phrases:Flash Presentation. This is not the norm till children reach the age of 10.6 at the grade 5.4 level.

An almost perfect score was achieved in Test VI Recognizing and Blending Common Word Parts (to make nonsense words). 22 out ot 23 nonsense words were correctly pronounced first time, and the error of "twocock" for "twock" was self corrected on section by section analysis. This score is the norm for age 11.0, grade level 6.6.

Perfect scores were also achieved in giving letter names and naming lower case letters, Tests V-2 and V-4. One capital letter in Test V-3 was incorrectly labelled - "Y" was called "U". Such results are the norm for age 9.10, grade level 4.7 in Test V-2, and for age 8.1, grade level 2.9 in Test V-4. A raw score of 25 in naming capital letters is the usual for children aged 7.4, grade level 2.2.

Gates-McKillop's Table XV counts 19/20 as a perfect score for Test VI-I, Recognizing the Visual Form of Nonsense Words. Jennie's results here are equal to the norm at grade 5.2, or age 10.4.

Tests VI-2 and VI-3 sought to explore competence in identifying initial and final letters. Jennie's score of 17 for initial letters is the norm for children aged 8.8, grade 3.5, and her raw score in final letters was 13 and the norm for children age 9.0, grade 3.8.

Jennie's knowledge of vowel pronunciation shifts resulted in a perfect raw score of 10 in Test VI-4. This is the norm for children age 10.2 and the beginning of grade 5.

All 15 words in the auditory blending test were correctly identified, but "valentine" required the second trial. Jennie's raw score here is the norm for children aged 9.6, grade level 4.3.

Supplementary Test VIII-I Spelling was administered and Jennie scored 15, which is the norm for 9 year olds at grade level 3.8. Words attempted but missed were usually correct at beginnings and endings, with letters omitted from the middle e.g., SHEPAD for shepherd, LONEY for lonely, BRILENT for brilliant.

Jennie gained a raw score of 6 in Test VIII-2 Oral Vocabulary. This is the norm for children age 8.2, grade level 3.0.

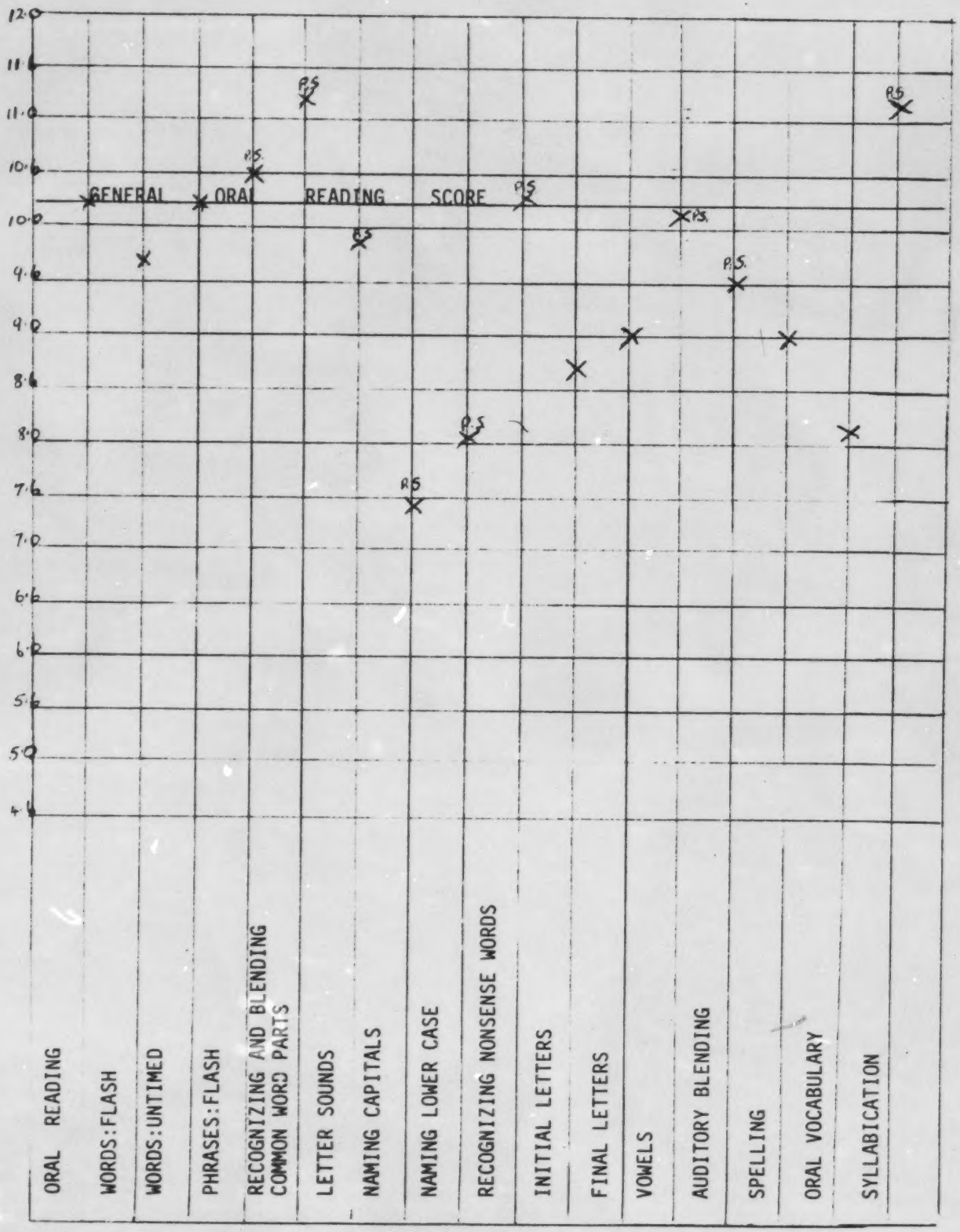
Another perfect score was noted in Test VIII-3 Syllabication. All 20 complex, multi-syllable words were correctly named. This is not usual till age 11.2 or grade 6.3.

The graph following shows Jennie's results in the Gates-McKillop Reading Diagnostic Tests form 1 with subskills expressed as the average age for which her raw scores are the norm. Subskills (which are not perfect or almost perfect and therefore ceilings) in which she

scored below her general reading abililty were words:flash presentation, initial letters, final letters, spelling and oral vocabulary. Subskills which were above her oral reading level were phrases:flash presentation, recognizing and blending common word parts, recognizing nonsense words and syllabication.

TABLE 9

JENNIE'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 1, WITH SUBSKILLS EXPRESSED AS THE AVERAGE AGE FOR WHICH HER RAW SCORES ARE THE NORM.



P.S. = Perfect Score

In early February Jennie's reading was tested again. Her previous score in the Daniels and Diack Standard Reading Test was near perfect, so this was omitted in the retesting session. On the Schonell Graded Word Reading Test she gained a raw score of 43, which translates into a reading age of 9.3. This was a raw score rise of 4 and a reading age rise of 3 months.

The Gates-McKillop Reading Diagnostic Tests form 2 were also given. In general oral reading Jennie read all seven paragraphs, with a total raw score of 31. According to Gates-McKillop's norms, this is the averagae for a child aged 10.10 or in grade 5.8. Jennie made one error in the crucial first four paragraphs. This involved substituting "taken" for "had". Although graphophonically very different, it was grammatically acceptable and may have even improved the story flow - "after the mouse had had/taken its nap". This score represented an increase in general oral reading ability equal to 7 months.

In Test II "Words Flash Presentation", Jennie attempted only 32, and gained a raw score of 28, which is the norm for children aged 9.7 at the 4.4 grade level. In this subtest Jennie's performance had slightly deteriorated over the five month interval, but by an age norm of only one month. The words attempted, but mispronounced, were very close and some may even have been her usual pronunciation e.g., "familar" for "familiar", and "musikan" for "musician". But as no articulation deviations had been noted in other words, these were counted as errors.

A raw score of 61 was obtained in Words:Untimed Presentation, Test III. This is the norm for children aged 9.7 at grade level 4.4 An even larger drop in performance shows up here, as Jennie's previous score was the norm for age 10.4. "Musician" and "familiar" were mispronounced in exactly the same way as in the flash presentation, but other errors are also interesting. The "y" in "dignify" was given a long "ee", which is a legitimate attempt, and "suspection" for "suspicion" may reflect word study at the morpheme level i.e., suspect - suspection.

Tests V-I, V-2, V-3 and V-4 were not given, as Jennie had scored perfect (or only one error) scores in form 1, and had reached ceilings. Jennie's score of 17 for initial letters is the norm for children aged 8.8, grade 3.5, and is the same as when she was tested with form 1 in September. Her raw score in final letters was a perfect 14, and is the average for grade 4.2, age 9.4. This represents a slight increase from her September performance.

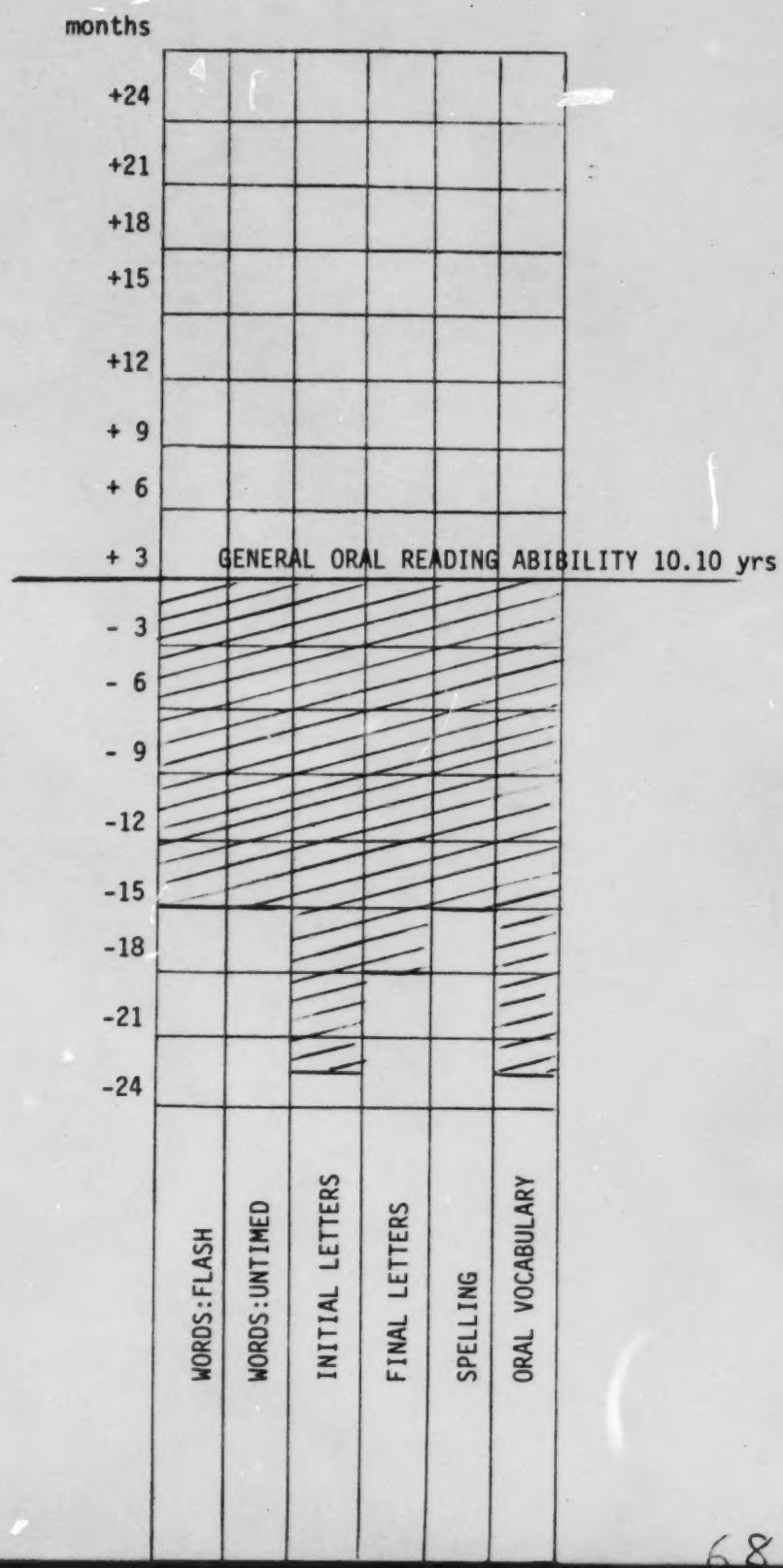
Supplementary test VIII-I, Spelling, was administered and Jennie scored 17, which is the norm for 9.7 year olds at the 4.4 grade level. In form 1 she correctly spelt only 15, and this represents an increase equal to 7 months. Words attempted but missed were usually correct in beginnings, and endings, with middles confused e.g., "CREUL" for "cruel", "BILD" for "build", "SPRIT" for "spirit", and "LANDESCAPE" for "landscape".

Jennie gained a raw score of 8 in Test VIII-2 Oral Vocabulary. This is the norm for children aged 8.9, grade 3.6, and again represents an increase of 7 months.

Except for final letters, for which she improved to gain a perfect score in the retesting, Jennie's general reading ability still seems strong in the subskills of phrase recognition and syllabication. Subskills which were not perfect scores and therefore ceilings in which she scored below her general oral reading level were:- words: flash presentation, words: untimed, initial letters, spelling, and oral vocabulary. The following graph shows Jennie's results in the Gates-McKillop Diagnostic Reading Tests, form 2, with subskills expressed in age norms above or below her general reading ability.

TABLE 10

JENNIE'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 2, WITH RESULTS EXPRESSED IN AGE NORMS ABOVE AND BELOW HER GENERAL ORAL READING ABILITY



When using The Reading Miscue Inventory in September, a total of 42 miscues were recorded in 2 stories - 11 in "The Old Man, His Son, and the Donkey", and 31 in "Name of the Tree". Of these, 21 or 50% could be analyzed for graphonic or grammatical similarity, with the other half being insertions or omissions.

Graphic similarity was found in 7 of Jennie's miscues or 33%. These include three repetitions of whole phrases after hesitant readings e.g., "I've got it. The ...", or "just a little, dog said", and "A-nan-el-fay", (the cat's mispronunciation of the name of the magic tree). Other high graphic similarity is found in the contraction "don't" for "do not". This was not corrected. No semantic or syntactic violations had occurred in these examples. Graphically similar miscues that involved meaning loss and/or inappropriate grammar were self-corrected e.g., "send" for "said", "come to" for "came to". Partial graphic similarity was found in 40% of Jennie's miscues. These involved whole phrases being contracted to a word beginning with similar letters e.g., "them" substituted for "their words", or parts of words similar. Sometimes the similar letters were in the middle e.g., "they" for "he", "a" for "cat"; sometimes at the beginning e.g., "the" for "their". Similarity of graphemes often seems to hinge on a key word or phrase with supporting words changed to be grammatically appropriate to the miscue e.g., "that he tried" for "and so tired". 27% of Jennie's miscues were not at all graphically similar to the text - "I" for "he", "the" for "a", or "a" for "the". "Is" was corrected to "time" as both grammar and semantic partial violations had occurred, but noun determiners were left

uncorrected, and although "with" is quite different from "and", it was grammatically and semantically acceptable and left uncorrected.

Sound similarity was categorized as high in 36% of Jennie's miscues. Three of these were straight repetitions after hesitancy and pausing, one was a contraction "don't" for "do not". "Come" is only one phoneme different from "came", but was corrected to fit the grammatical flow of the sentence. "Life" has a stronger phonetic relationship to "live" than graphic similarity, but was left uncorrected. A similar proportion of Jennie's miscues (37%) was found to bear partial sound similarity to the target words. "Them" begins with the same phoneme as "their words", as does "the" and "their". Partial sound similarity is most strongly noticed in whole phrase miscues, with phonic likeness in key words - "that he tried" for "and so tired", and "(1) on his (2)in his" for "in as". Five of Jennie's miscues were not at all similar to the text phonetically. Noun determiners (a, and, the) were used interchangeably, and left uncorrected several times. Miscues that not only sounded different but also violated semantics and/or syntax were corrected e.g., "is" for "time" , and "the" for "his". It is interesting to note that Jennie did not correct "I" for "he" when referring to the dog. Previous phrases had been direct quotation with Dog speaking in the first person.

Not one of Jennie's miscues was grammatically different from the text. 48% were of identical function, and 52% were grammatically acceptable with preceding or following phrases. Four were phrases or words read

correctly but hesitantly, and then repeated confidently when the following words confirmed her tentative guesses. "Don't" was not corrected to "do not", "with" made a grammatically acceptable conjunction instead of "and", and so was left uncorrected, although graphonically very different. "They" for "he" is closer to colloquial speech patterns of not alwlays having the singular to agree with "no one". Jennie corrected this miscue herself. However, another miscue that approximates colloquial usage was left uncorrected i.e., "He come to the tree" instead of "He came to the tree.". Of the 11 miscues only partially acceptable grammatically, 8 were self corrected.

When grammatic acceptablity is cross-referenced with self correction and meaning change, 29 or 72% of Jennie's miscues show strength in using grammatical relations. A further 7 or 14% indicate that she uses syntactic cues even to the extent of what Goodman and Burke (1972) would classify as overcorrection. If the 3 miscues showing only partial strength of grammatical relationships are included, then only 3 or 7% of Jennie's miscues involved grammatical weakness. At least one of these may be related to colloquial usage.

Not one of Jennie's miscues involved total comprehension loss. Only 2 out of a total of 42 involved partial comprehension loss i.e., approximately 1%. Omitting "up" from "Dog jumped up and ran", slightly distorted the meaning. It is not clear when Jennie substituted "I" for "he" that she really knew that the pronoun referred to the dog, although it is possible as the previous phrase involved direct quotes with the dog speaking in the first person.

That leaves 40 or 99% of miscues involving no doubt that meaning was retained. Only one miscue - "send" for "said" - involved meaning change, and that was corrected despite graphophonic similarity. Seven other miscues implied partial meaning change, and five of these were self corrected.

Jennie's total retelling score for the two stories was 50.

TABLE 11

READING MISCUE INVENTORY READER PROFILE

TABLE V

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Reader JENNIE
Teacher
Date SEPTEMBER 1981
Class
Selection THE OLD MAN, HIS SON, AND THE DONKEY and NAME OF THE TREE
School

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss to Partial	99
Comprehension Loss to Comprehension Loss	1
	0

Reader's Use of Reading Strategies:

- Highly Effective ☑
- Moderately Effective ☐
- Some Effective ☐
- Ineffective ☐

Percentage Line

0 10 20 30 40 50 60 70 80 90 100

NO LOSS 99%

PART LOSS 1%

Frequency Line

RETELLING SCORE 50

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Some	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70		70	70	70
60	60	60	60	60	60	60		60		60	60	60
50	50	50	50	50	50			50		50	50	50
		40			40			40		40	40	40
								30		30	30	30
								20		20	20	
								10				

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

When using the Reading Miscue Inventory at the start of the 1982 school year, Jennie scored a total of 50 miscues in two stories - 25 in each of "Zoo Doctor" and "Why the Parrot Repeats Man's Words". Of these 31 could be analyzed for graphophonic or grammatical similarity, the remainder being insertions or omissions.

Graphic similarity was found in 16 of Jennie's miscues or 50%. Close approximations of unfamiliar words fall into this category, e.g., "imating" for "imitating", "assept" for "accept", "Suanda" for "Sudana". Jennie knew that "wisdom" was built on the word "wise" and mispronounced it accordingly, thus it was more graphically similar than phonetically. Another substitution like this was saying "trough" to rhyme with "through". 14 of Jennie's substitutions were partly similar to the text graphemes. These involved jumbled word order e.g., "feed the room" instead of "the feed room", and "now can you" for "can you now". Also on this category were less successful attempts at unknown words, e.g., "produced" for "predicted", and "packets" for "packages"; and "mathematics" for "arithmetic". Jennie could not correctly translate high numbers into correct word order and read "120" as "one hundred and two", and "480" as "four hundred and eight". Only one miscue was not similar in appearance to the target word - "and" for "to". No semantic or grammatic violations had occurred and this was left uncorrected.

Sound similarity was categorized as high in 25% of Jennie's miscues. One was a corrected phrase after the pronoun was omitted "it was his

neighbor's", and some involved very close approximations at unfamiliar words e.g., "penicillin" with a hard 'k', and "ancient" beginning with a short 'a'. 22 or 74% of Jennie's miscues bore partial sound similarity to the target words. Not-so-close attempts at unfamiliar words were put into this category e.g., "assept" for "accept", "merrily" for "merely", .note that the testing was around Christmas time! "least" for "lest", which were more similar graphically than in sound. Only one of Jennie's miscues was not at all similar to the text phonetically - "and" for "to".

Two of Jennie's miscues involved inappropriate grammar. "The feed room" was jumbled into "feed the room", and was left uncorrected. "He would have to" was corrected to "how would the doctor". Eight or 25% of Jennie's substitutions were acceptable with preceding or following text. Three of these were self corrected - "it" for "that", "have" for "give", and "and" for "at". Some in this category were non words whose function could not be fully determined. Tha left 21 or 74% of substitutions of identical grammatica function. Nouns were substituted for nouns e.g., "packets" for "packages", and "elephant's" for "elephant". Prepositions were replaced with prepositions e.g., "in" for "into" or "on", and "on" for "in".

When grammatic acceptability is cross referenced with self correction and meaning change, 31 or 62% of Jennie's miscues show strength in using grammatical relations. A further 1 or 2% indicate that she uses syntactic cues even to the extent of what Goodman and Burke would classify as overcorrections. If the ten miscues showing only partial

strength of grammatical relationships are included, then only 8 or 16% of Jennie's miscues involved grammatic weakness. Half of these were non word attempts at unfamiliar vocabulary that were too vague to be classified as equivalent. If Jennie were given the benefit of the doubt with these, then weakness in grammar would fall to 4 or 8%.

Three of Jennie's miscues showed loss of comprehension e.g., "feed the room" instead of "the feed room". She also did not understand her mispronunciation of "trough". Her substitution of "in" for "on" was a loss of meaning about where the meat was hidden, although it is far more usual in our culture to keep meat in a house rather than on a house. 22% of Jennie's miscues showed she kept part of the meaning, while 36 or 72% indicated no comprehension loss at all.

Jennie's omissions were not words that were too difficult but show an acceptable use of language. It is equally meaningful to say "ready" instead of "I'm ready", and "there" and "and" were redundant in the contexts in which they were omitted. Many of Jennie's insertions were acceptable conjunctions that perhaps enhanced the flow of the story e.g., "and", "but".

TABLE 12

READING MISCUE INVENTORY READER PROFILE

TABLE VI

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Reader Bonnie Date Feb. 1982 Selection Zip Doctor and the Bugs Bugs Means Words

Teacher _____ Class _____ School _____

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss to Partial Comprehension Loss to Comprehension Loss	72 22 6

Reader's Use of Reading Strategies:

- [x] Highly Effective
- [ ] Moderately Effective
- [ ] Some Effective
- [ ] Ineffective

Percentage Line

0 10 20 30 40 50 60 70 80 90 100

NO LOSS 72% | PART LOSS 22% | LOSS 6%

Frequency Line

RETELLING SCORE 44

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Some	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60	60	60	60	60	60
50	50	50	50	50	50	50	50	50	50	50	50	50
40	40	40	40	40	40	40	40	40	40	40	40	40
		30			30			30		30	30	30
		20			20			20				20
					10			10				10

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction
Sianda	Sudana	15	15	0					

4.3 In September, Melanie's chronological age was 5.11, but her raw score was 40 in the Schonell Word Recognition Test, which is equal to a nine year old reading age. She was also given the Daniels and Diack Standard Reading Test, and gained a raw score of 126. According to Daniel and Diack's norms this is equal to nine year reading age also.

The Gates-McKillop Reading Diagnostic Tests were administered to try to gain some insights into Melanie's strengths in various reading strategies. In the oral reading section she read all seven paragraphs for a raw score of 25. According to Gates-McKillop's norms, this is the average for children with a chronological age of 9.10, or average for those in grade 4.7. In the first four paragraphs Melanie made four errors. One word was omitted "He stuck out his chin" and one word was inserted "Let me give /up\ you ...". Two words were mispronounced. "You are" was contracted to "you're", and "into" pronounced as "in". These errors did not even register on tables V and VI for average percentages of types of errors and mispronunciations. Melanie read rapidly. When unfamiliar words were encountered she usually tried quickly in an approximation and proceeded.

In Gates-McKillop Test II Words:Flash Presentation, Melanie scored 29 which not the norm till grade 4.5 or age 9.8. Of the 11 words missed eight were declared immediately to be not known, and three were attempted and mispronounced. "Poston" was given for "position", "condure" for "conductor" and "portion" attempted as "porton".

Melanie gained a raw score of 60 in Words:Untimed Presentation Test III. According to Gates-McKillop norms this is the average score for 9.6 year olds or grade level 4.4. All words were attempted, and unfamiliar ones sounded out in syllables.

A perfect score was produced in Test IV Phrases:Flash Presentation, which is not usual till age 10.6 or grade level 5.4.

Melanie used her knowledge of word parts to achieve a raw score of 19 in Test VI. This is the norm for those at grade level 5.7 - 5.9, i.e., for children who are 10.10 in age. The nonsense syllable "twock" was pronounced as "took". Even when the beginning consonant digraph "tw" was isolated she still lef out the 'w' and declared it to be 't'. "Brome" was pronounced with the short vowel "brom", again, even when the vowel syllable was isolated. The other two errors involved inserting extra sounds - "wrell" was "werell", and "prible" became "pribible".

Another perfect score resulted in test V2:Giving Letter Sounds. This was the Gates-McKillop norm for grade level 4.7, age 9.10. Melanie gave only the short pronunciation of vowel sounds.

Tests V-3 amd V-4 asked Melanie to give alphabetic names to capital and lower case letters. All capital letters except U and also all lower case letters except u and q. Melanie's mistakes here involved giving letter sounds instead of names. Her score of 25 in Test V-3 is

the average for children aged 7.4 grade 2.2, and her score of 24 in Test V-4 is the average for children aged 7.6 grade 2.3.

Melanie was required to recognize the visual form of sounds in nonsense words in the Gates-McKillop Test VI-1. She correctly identified 17 out of 20, which is the norm for age 9.6, grade level 4.3

Perfect scores were recorded for tests VI-2, VI-3 and VI-4 for identifying initial letters, final letters and vowels. This is a grade level 4.2 , age 9.4 achievement for initial and final letters, and age 10.2, grade level 5.0 for vowel identification.

Gates-McKillop Test VII assessed Melanie's auditory blending and she gained a raw score of 14. This is the norm for children aged 9.4, grade level 4.2 . The only word missed was "valentine".

Supplementary Tests VIII-1 Spelling was attempted up to word 20 and Melanie gained a raw score of 13. "Son" was spelt "sun" despite a context sentence. Melanie left out letters in the middle of words e.g., "point" had 'i' left out, "lonely" lost its 'l'.

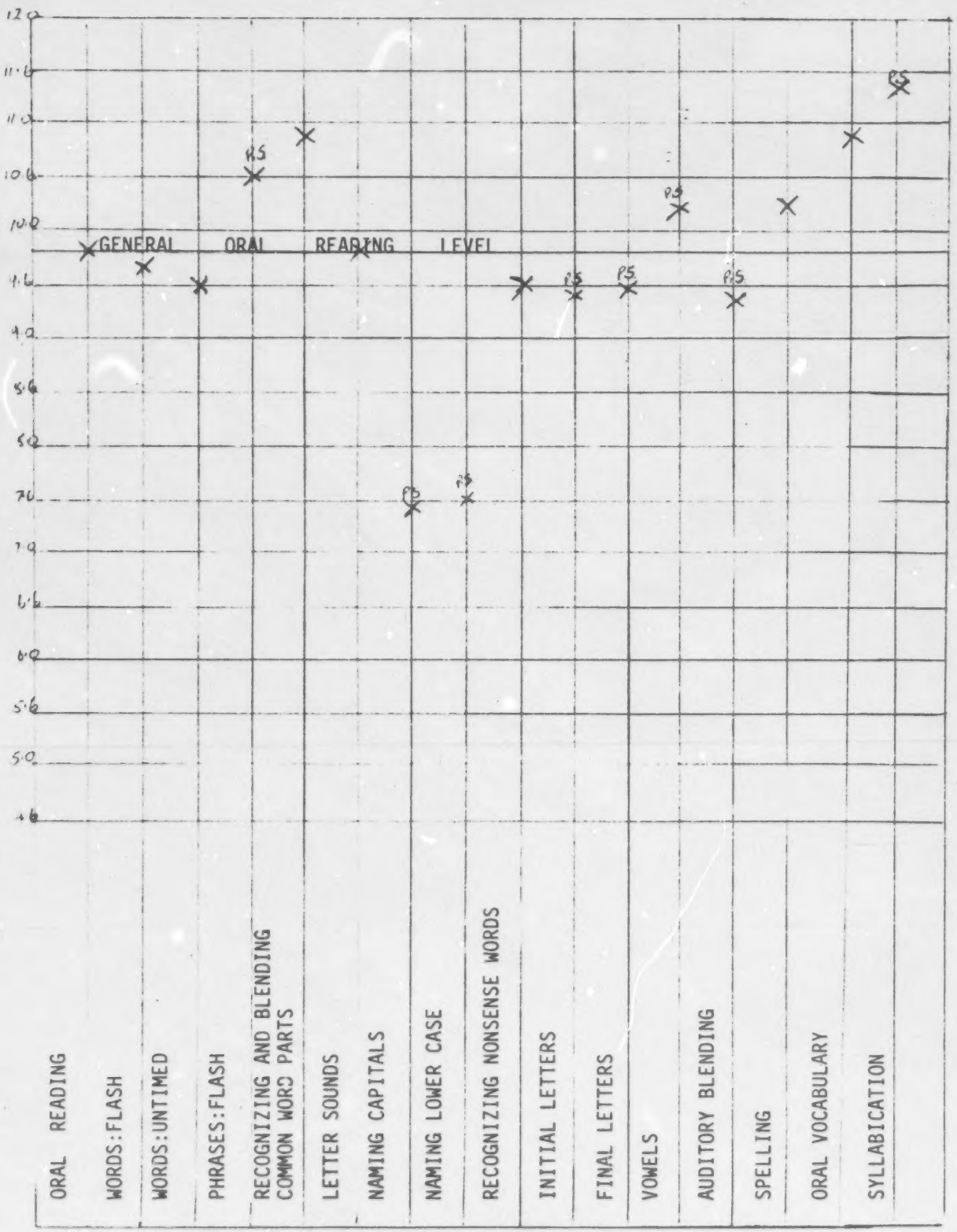
Melanie's results for oral vocabulary were equal to the average 10.10 year old or grade level 5.8. She gained a raw score of 16 , including correct identification of meaning of words such as "invidious", "deferential" and "sarcastic".

Tests VIII-3 required a pronunciation of multi-syllable nonsense words. Melanie gained a perfect score of 20, which Gates-McKillop found to be norm at age 11.2, grade level 6.3.

The following graph shows Melanie's results in the Gates-McKillop Reading Diaagnostic Tests Form I, with subskills expressed as the average age for which her raw scores are the norm. Subskills (which are not perfect or almost perfect and therefore ceilings) in which she scored below her general oral reading level were Words:untimed and flash presentation, and recognizing nonsense words. Subskills in which she scored above her general oral reading level were Phrases:flash presentation, recognizing and blending common word parts, vowels, spelling, oral vocabulary and syllabication.

TABLE 13

MELANIE'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 1, WITH SUBSKILLS EXPRESSED AS THE AVERAGE AGE FOR WHICH HER RAW SCORES ARE THE NORM.



P.S. = Perfect Score.

Melanie scored 48 in the Schonell Graded Word Reading Test in the retesting session, equivalent to the reading age of a 9.8 year old, and represents a rise of eight months.

The Gates-McKillop Reading Diagnostic Tests Form 2, were also administered. In the general oral reading section she read all seven paragraphs to gain a raw score of 28. According to Gates-McKillop's norms, this is average for chronological age 10.3 or grade 5.1, representing an increase of five months in general reading age. In the first four paragraphs Melanie made three errors. In the third paragraph she substituted "knew" for "took", but corrected herself. Then in the fourth paragraph she substituted "a" for "the". Although graphophonically different, it was grammatically acceptable, and made very little difference to meaning. She also inserted "you" which was syntactically unacceptable in "we will make /you\ war on Mr. Rat", but left it uncorrected. Melanie's reading was not so rapid and hurried as before.

In test II Words:Flash Presentation, Melanie scored 30, which is the norm for grade 4.5, age 9.8, similar to her performance in form 1. Of the ten words missed, six were declared immediately to be not known, and four attempted but mispronounced. She also gave the hard ,k' sound in "musician", and the long ,core' to "courage" (see also Daniel). The other two errors had first syllablesa correct - "family" for "familiar", and "discont" for "discontent".

Melanie gained a raw score of 54 in Words:Untimed, Test III, and according to Gates-McKillop norms is the average score for 9.2 year olds at grade 4.0 level. This score is six less than form 1, and represents a decrease age norm of four months. This time Melanie did not attempt all words, and 16 were passed.

A score of 22 out of 23, which achieves a Gates-McKillop perfect score, was reached in Test V-I, Recognizing and blending common word parts. This score is not average till grade 6.7 - 6.9, or age 12, representing an increase in word attack ability equal to 1.2 years. The one word with which she had difficulty was correctly recognized in parts in columns 2 and 3, and correctly blended ind column 4.

Tests V-2, V-3 and V-4 were omitted because her scores in form 1 had reached their ceilings.

Melanie was required to recognize the visual form of sounds in nonsense words in Test VI-1. She correctlyf identified 14 out of 20, which is the average raw score for grade level 3.3 - 3.6, or age 8.7. Melanie had scored equivalent to a 9.6 year old in the previoustest testing of this skill.

Supplementary Test VIII-1 Spelling, was attempted up to word 25 and Melanie gained a raw score of 13. Several words misspelt had correct beginnings and endings e.g., "CRUL" for "cruel", "SPRIT" for "spirit", "LOIY" for "lonely". Most words missed were simply passed over with a shake of the head.

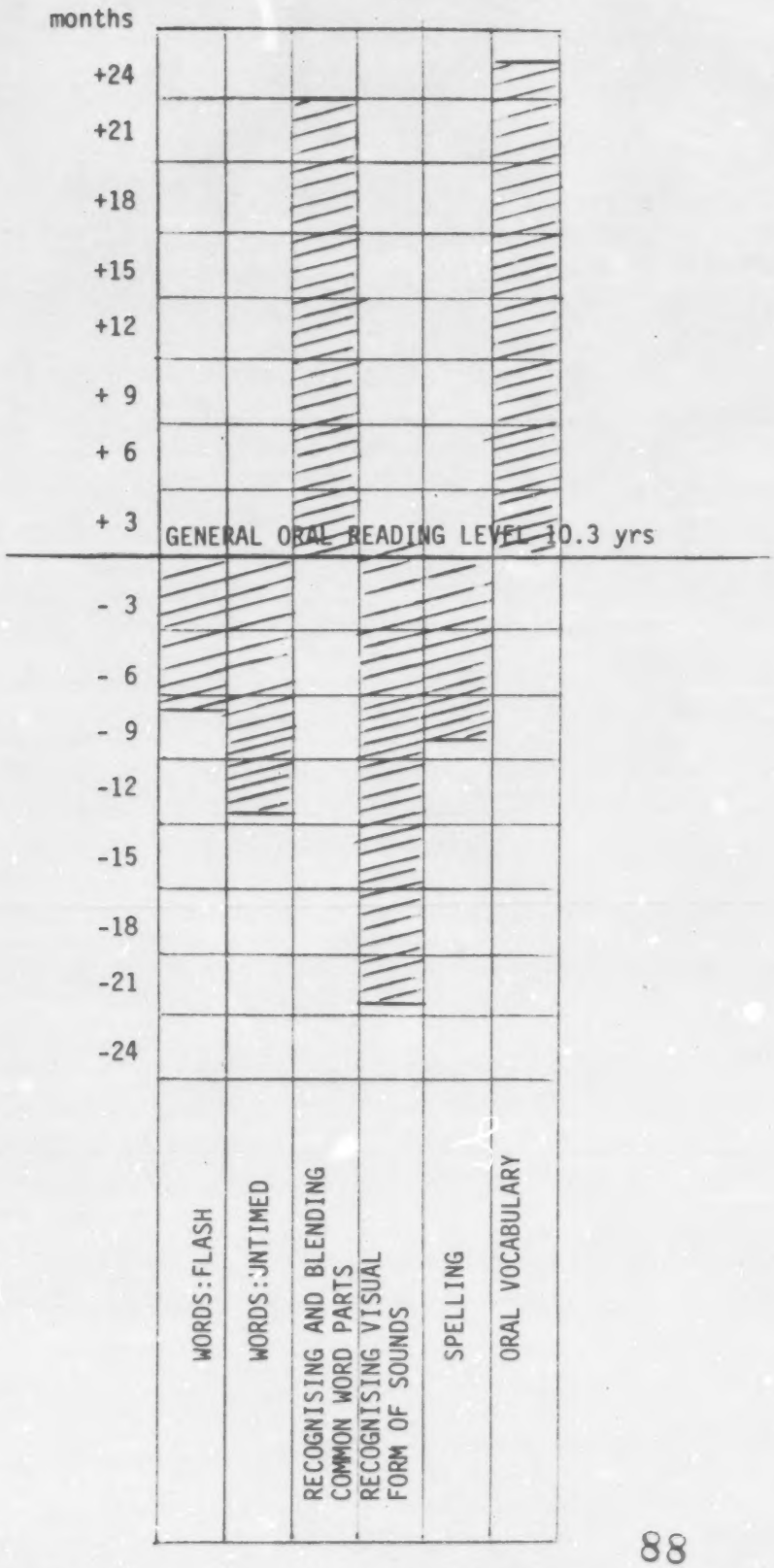
Melanie's results for oral vocabulary were equivalent to the average 12.1 year old or grade level 6.8, a rise of a full year in ability since first tested.

Subskills which are not perfect and therefore ceilings in which she score below her general oral reading level were - Words:Flash Presentation, Words:Untimed, Recognizing the visual forms of nonsense words, and Spelling. Subskills which were above her general oral reading level were - Oral vocabulary and Recognizing and blending common word parts.

The following graph shows Melanie's results in the Gates-McKillop Reading Diagnostic Tests, Form 2, with scores expressed in agae norms above and below general reading ability.

TABLE 14

MELANIE'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 2, WITH SUBSKILLS EXPRESSED IN AGE NORMS ABOVE AND BELOW HER GENERAL ORAL READING LEVEL



To gain a deeper understanding of Melanie's reading strategies her oral reading was diagnosed using Goodman and Burke's Reading Miscue Inventory. 60 miscues were recorded over two stories (17 in "The Old Man, His Son and the Donkey" and 43 in "Name of the Tree"). 29 miscues were omissions or insertions, leaving 31 that could be categorized for graphic, phonic and grammatic similarity to text.

20% or six of Melanie's miscues bore close graphic similarity to the written word. One was an exact repetition after a hesitant start "When the King of ..." and the other five were only one letter difference, usually in the middle of the word e.g., "talking" for "taking", "palace" for "place", "don't" for "do not", and "tried" for "tired". The exception to this graphic similarity in beginnings, endings and word shape is "the" for "they" and this was self corrected. 52% or 16 of Melanie's miscues were partially similar to the set graphemes e.g., "the" for "their", "them" for "him", but most in this category involved jumbled words or inverted phrases e.g., "are they" for "they are", "even didn't" for "didn't even". These were left uncorrected. Even larger phrases were jumbled with partial graphic similarity coming through in key words or propositions, while surrounding and supporting words were changed or omitted e.g., "to the people" instead of "until he came to the people", or, "as he hurried" for "as big a hurry as". 28% of substitutions were not graphically similar to the text at all. Five of these involved no or only partial meaning change and were left uncorrected e.g., "the" for "a", "to go" for "out in", "had" for "could". Where grammar or semantics were

violated the miscue was corrected.

Sound similarity was closely evident in 5 or 17% of Melanie's miscues, e.g., "palace" for "place", "tried" for "tired", "talking" for "taking". But 17 or 55% were not fully phonetically similar e.g., "Cat" for "King" only share the beginning phoneme, while "them" and "him" share only the final sound. Most miscues categorized as partially similar in sound were the jumbled phrases with words the same, but word order different, e.g., "said the woman" for "the woman said", and "are you" for "you are". Nine of Melanie's substitutions or 28% had no sound similarity at all, e.g., "to the" for "what", "to go" for "out in", "had" for "could", "He" for "and so". Where sound diss dissimilar miscues violated grammar they were usually corrected, e.g., "it" for "they", or where they disrupted the meaning of the story they were also corrected e.g., "Cat" for "King". Where semantics or syntax were not disturbed, phonetically dissimilar miscues were often left uncorrected, e.g., "Turtle started to go ..." is semantically and grammatically just as correct as "Turtle started out ...".

Grammatical similarity was kept in 48% or 14 of Melanie's miscues e.g., the previously mentioned reversed phrases, "the" for "a", "horse" for "donkey". 13 of 40% of substitutions were partially grammatically acceptable, e.g., "had" for "could", "told" for "ran". Seven of these were self corrected, mostly when semantic violations had occurred as well. That left 4 or 12% of substiutions that were grammatically unacceptable, e.g., "ran away" for "right away",

"tried" for "tired".

Comprehension was lost in 6% of Melanie's miscues in "the Old Man, His Son and the Konkey" and 2% in "Name of the Tree". Overall the 60 miscues this meant a total of only two miscues involving comprehension loss. This occurs in the first sentence in the first story - "talking" for "taking", and leaving uncorrected "ran away" for "right away" in "Name of the Tree". A total of 22% of Melanie's miscues involved partial loss of meaning, and the remaining 75% kept mening intact.

Strength of grammataical relationships was evident in 42 or 71% of Melanie's miscues, 3% showed partial strength, and 6% were using grammatical knowledge to the point of overcorrectionf. Thus 20% of Melanie's miscues showed a weakness in her use of grammar.

Melanie corrected herself 15 times, giving a self correction rate of 25%. Almost every self correction occurred when meaning change and/or grammatical unacceptability had occurred, rather than when graphophnic cues were ignored.

Nearly half of Melanie's miscues (29/60) were insertions or omissions. Six words wer omitted from the first story, and 23 from the second. But these were not the words that were too difficult as she had already shown elsewhere she could cope with them e.g., old, up, all, when. Many of these could be dropped without hampering syntax or semantics e.g., "Those two walk when they might ride" could be two

sentences with "when" omitted. "All" is not needed in front of "the girls laughed", nor in the phrase "they all started laughing". Many conjunctions were also skipped without disrupting the story e.g., "then", "and". At other times Melanie inserted conjunctions e.g., "so", to keep the story flowing. Other insertions resemble natural language more closely e.g., "he tripped /over\ on a rock", and "the old man is /all\ right".

TABLE VIII

READING MISCUE INVENTORY READER PROFILE

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Reader MELANIE
Teacher
Date SEPTEMBER, 1971 Selection THE OLD MAN HIS SON AND THE DONKEY AND
Class
School NAME OF THE TREE

TABLE 15

COMPREHENSION PATTERN

Percent of relationships of No 75
Comprehension Loss to Partial 22
Comprehension Loss to Comprehension Loss 0

Reader's Use of Reading Strategies:

- Highly Effective ☑
- Moderately Effective ☐
- Some Effective ☐
- Ineffective ☐

Percentage Line

0 10 20 30 40 50 60 70 80 90 100

NO LOSS 75%

PART LOSS 22%

LOSS 3%

Frequency Line

RETELLING SCORE 40

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Some	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70		70	70	70
60		60	60		60	60	60	60		60	60	60
50		50	50		50		50	50		50	50	50
40		40	40		40			40		40	40	40
30			30					30		30	30	30
										20		20
										10		10

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

Melanie read two stories from the Reading Miscue Inventory - "Zoo Doctor" and "Why the Parrot Repeats Man's Words". A total of 50 miscues were recorded (15 + 35). 21 were insertions or omissions, leaving 29 substitutions that could be categorized for graphophonic and grammatical similarity.

5 or 17% of Melanie's substitutions closely resemble the target graphemes e.g., "elephant's" for "elephant", and attempts to pronounce unfamiliar words e.g., "merrily" for "merely" and "condemen" for "condemn". She did not try to sound the unknown words out, but took a guess and kept on reading. 64% of Melanie's substitutions were graphically similar to the text in parts. Again she took a guess at unfamiliar words e.g., "hummed" for "lumbered", "guard" for "guardrail", "wItless" for "witless". Some in this category also involved shifting the word order of phrases e.g., "said the keeper" instead of "the keeper said", "put your street clothes on" instead of "put on your street clothes"' "that was" for "was that". One very interesting substitutions was "I know said" for "acknowledged" - three words instead of three syllables, with the middle word or syllable the same. The substituted phrase carried the same meaning and grammatical function as the one target word. The remaining six substitutions or 19% were not at all similar to the text e.g., "is" for "and", "the" for "no", or, "in" for "over". Most of these also involved semantic and/or grammar violations, but Melanie carried on reading regardless.

A close similarity in sound was found in only two of Melanie's

substitutions. Partial sound similarity accounted for 65% of Melanie's miscues in this category. Many of these involved the correct words, but in different order e.g., "said the judge" for "the judge said", "on me" for "me on". In this category were also attempts at unfamiliar words e.g., "peni" for "penicillin", "endagired" for "endangered" , and "avril" for "arrival". The remaining 8 or 33% were not similar in sound to the target words at all - "the" for "and", "in" for "over", "is" for "and".

Similar grammatic function was evident in 17 or 63% of Melanie's substitutions. Most of her jumbled phrases turned into equally acceptable alternatives. 10 or 30% of her substitutions were partially grammatically acceptable. Reversed word order was sometimes the source of this category e.g., "that was" instead of "was that", "to than" instead of "than to". Her oral reading was so fast that it seems she often did not notice minor errors like this and just passed over them uncorrected. Even when the errors were quite ungrammatical she left them and pressed on quickly. This accounted for only five of her substitutions, and meaning was usually or partially retained.

Insertions also observed correct grammar mostly, e.g., "part of the meat he hid /was\ on top of the rice house", "it was like rubbing /a\ warm cement". Other insertions were acceptable conjunctions e.g., "and" or "then". Overall strength of grammatic relationships was found in 22 of her 50 miscues, and partial strength in 12 (44% and 24%). Melanie self corrected acceptable miscues twice - "please can I have the sulfa ready ..." changed to "please have the sulfa ready

...", and "beautiful" to "brilliant". That left 14 or 28% of her miscues showing grammatic weakness. The errors in this category were often unfamiliar words slurred over into non words so it was not clear whether she was substituting acceptable grammar or not. Most of these also involved some meaning loss.

Consequently 9 or 18% of Melanie's miscues could be said to indicate comprehension loss, but 22% showed only part loss, and 60% no semantic change at all.

TABLE 16

TABLE IX

READING MISCUE INVENTORY READER PROFILE

© Carolyn L. Burke and Yetta M. Goodman 1972

Reader Jackson Date Feb. 1982 Selection Zuzu Doctor and Why the Bacon Rapers Mans Words.

Teacher _____ Class _____ School _____

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss to Partial Comprehension Loss to Comprehension Loss	60 22 18

Reader's Use of Reading Strategies:

- Highly Effective ☐
- Moderately Effective ☐
- Some Effective ☐
- Ineffective ☐

Percentage Line

0 10 20 30 40 50 60 70 80 90 100

NO LOSS 60% PART LOSS 22% LOSS 18

Frequency Line

RETELLING SCORE 22.

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Some	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80	80	80	80
70		70	70		70		70	70	70	70	70	70
60		60	60		60		60	60	60	60	60	60
50		50	50		50		50	50		50	50	50
40		40	40		40		40	40		40	40	40
30	30		30		30			30				30
20	20			20								20
10	10	10	10	10					10			10

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

4.4 In September, 1981, Michelle was given the Daniels and Diack Standard Reading Test. Her chronological age was 5.1. She successfully read and answered the first eight questions, giving her a raw score of 24, which Daniels and Diack equate with a reading age of 4.9. The Schonell Word Recognition Reading Test was also given at this time. Michelle scored seven on the Schonell Test, equivalent to a reading age of 5.7.

The Gates-McKillop Reading Diagnostic Test, Form 1, for oral reading produced a total raw score of 1.6, or grade level 1.8, giving a reading age of 7.0. Michelle only read the first four paragraphs, as 11 mistakes were made in each of the final two paragraphs, and she made a total of 53 mistakes. 36 of these were words omitted, and 17 were mispronunciations. No words were added or repeated. Michelle did not reverse words or parts of words, but six mistakes were wrong in several parts e.g., "not" for "do", "duck" for "donkey", "mouse" for "monkey", "went" for "was", "dead" for "black", and "toy" for "tail" Four of these had correct beginning consonants, but both middle and ends were incorrect. Six mistakes had first and middle parts correct, but wrong endings - "has" for "had" occurred twice, "said" for "saw", "this" for "then", "on" for "out", and "go" for "give". Four of Michelle's mispronunciations involved wrong middles only, and each time it was "rabbit" for "rat". Only one of Michelle's mispronunciations involved being wrong about the beginning only, and thant was "it" for "at".

Michelle's 17 mispronunciations represented 30% of her total errors, which is a very low percentage according to Gates-McKillop's Table V. Conversely, her 36 omissions represent 70% of errors and are much higher than the norm for 53 total errors (45%).

The words Michelle mispronounced fell within the average range for wrong beginnings, and wrong several parts. For reversals and wrong endings she was better than average, but for wrong middles she was below average (Gates-McKillop Table VI).

Michelle read slowly in a monotone pitched higher than conversational tone, and made a detailed study of unfamiliar words with audible trials.

The Flash Presentation of Words raw score was 5, equivalent to age 7.0 at 1.8 grade level. Every word attempted began with the same sound as the target word except for two words beginning with a 'b' for which Michelle substituted a word beginning with 'd' - "dad" for "blind", and "did" for "brightness".

Michelle managed a high rating in Words:Untime Presentation, Test III. She correctly identified seven words, giving a raw score of 14, norm for grade 2.3, age 7.6.

Test IV Phrases:Flash Presentation, produced exactly the same results as Words:Flash Presentation i.e., raw score 5, grade level 1.8, age 7.0.

In the Gates-McKillop test designed to assess word attack, knowledge of word parts, Michelle only managed to correctly identify two of the nonsense words, although all nine of the consonant digraphs at the beginnings were known. The errors occurred in the syllables containing vowels in various pronunciation shifts e.g., "ite" was sounded out "i-t-e" but not recognized as a unit. Also "ade" and "ight" were attempted as individual sounds for individual letters and not recognized as a pronounceable unit. According to Gates-McKillop's norms this score is average for grade levels 2.3 - 2.6, age 7.8.

Michelle gained an almost perfect raw score for giving letter sounds, 25/26. She mistook a 'z' for an 'x', and gave only the short vowel sounds. A Gates-McKillop raw score of 25 is not the norm till grade 4.7, age 9.10.

Tests V-3, Naming capital letters, and V-4, Naming lower case letters, produced results so low that they did not even register on the norm scales in tables XII and XIII. Michelle could only give the alphabet names of six capital and eleven lower case letters, although she could recite the whole alphabet in correct order. In all other cases she resorted to letter sounds, and even when pressed to make the distinction between sounds associated with, and alphabet name for; she could not.

Michelle gained a raw score of eight in Recognizing the Visual Form of Sounds - Test VI-1 - Nonsense words. Of her twelve errors, eight had

correct beginnings, but she confused the vowel sounds and/or the endings e.g., "cobbesame" for "cobisome", "haskam" for "hackand". 'B' was substituted for 'D' in "tade" for "tabe"' and "duvall" for "burrall", and 'P' and 'Q' were reversed in her incorrect circling of "rimquick" for "rimpick".

Test VI-2 required Michelle to identify beginning letters of words presented orally, and she scored 17, giving her the equivalent to grade level 3.3 - 3.6, age 8.8. Both errors involved 'b' and 'q' incorrectly identified as 'd' and 'p'.

Final letters of words presented orally were required to be identified in test VI-3. Michelle gained a raw score of 11 which Gates-McKillop equate with grade level 3.2, age 8.5.

Test VI-4 Vowels was given and Michelle's raw score of 6 was equivalent to grade level 3.3 - 3.9, age 8.10 according to Table XVII. All the short vowels were correctly identified, but Michelle only recognized one of the long vowels (hote).

Auditory Blending, Test VII, gained Michelle a raw score of 14. Her only difficulty was "valentine" which she blended as "fly". Her score was equivalent to Gates-McKillop's norms for grade level 3.7 - 4.2, age 9.0.

The Supplementary Test VIII-1 Spelling was tried, but no score was gained at all. Michelle repeated the words in phonetic sections, and

gave no alphbetic spelling attempt at all. Similarly Test VIII-3, Syllabication, was abandoned when she could not pronounce any of the nonsense syllables.

Michelle's Oral Vocabulary Test results were raw score four, grade level 2.8, age 8.0.

The following graph shows Michelle's results in the Gates-McKillop Reading Diagnostic Tests, Form 1, with subskills expressed as the average age for which her raw scores are the norm. Subskills in which she scored below her general oral reading level were naming capital and lower case letters alphabetically, spelling and syllabication. Subskills in which she scored above her oral reading level were words:untimed, recognizing and blending common word parts, letter sounds, initial and final letters, vowels, auditory blending, and oral vocabulary.

gave no alphbetic spelling attempt at all. Similarly Test VIII-3, Syllabication, was abandoned when she could not pronounce any of the nonsense syllables.

Michelle's Oral Vocabulary Test results were raw score four, grade level 2.8, age 8.0.

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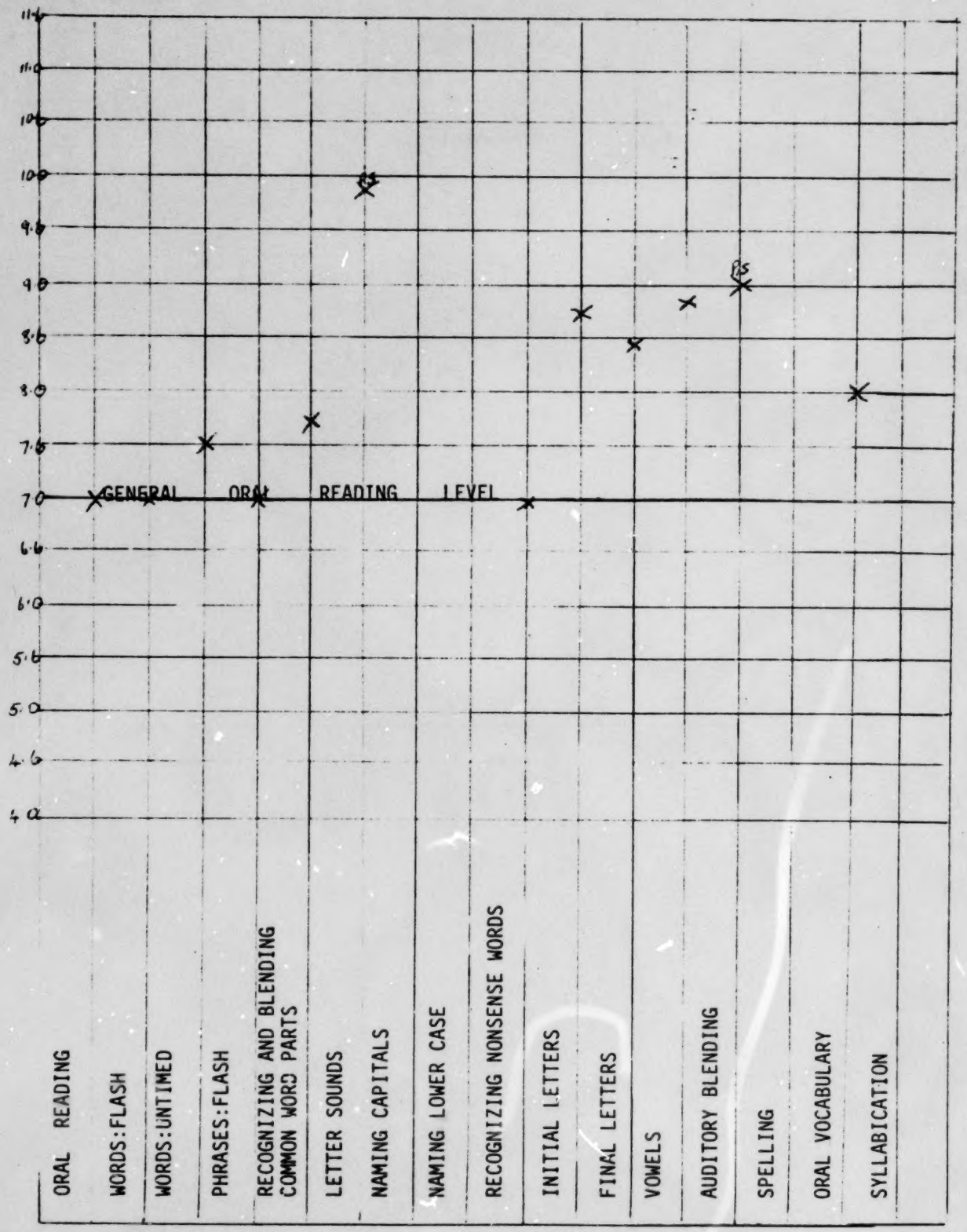
TABLE 17

MICHELLE'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 1, WITH SUBSKILLS EXPRESSED AS THE AVERAGE AGE FOR WHICH HER RAW SCORES ARE THE NORM.



P.S. = Perfect Score.

Before school started in early February, Michelle was again given the Daniels and Diack Standard Reading Test. She successfully read and answered eleven questions, giving her a raw scaore of 33, which Daniels and Diack equate with a reading age of 6.2, an increase of five months since first testing. The Schonell Graded Word Reading Test was also given again, with a score of 13, equivalent to a Schonell reading age of 6.3, an increase of eight months.

The Gates-McKillop Reading Diagnostic Tests , Form 2, for oral reading produced a total raw score of 4.6, their grade level of 2.2 - 2.3, giving a reading age of 7.5, and increase of 5 months since first testing. Michelle only read the first four paragraphs as more than 11 mistakes were made in each of the final two paragraphs, and she made a total of 37 errors. 22 errors involved correctly sounding out individual letter of words, but being unable to blend them into a word. 15 words were incorrectly pronounced. No words were added or repeated. 4 mispronounced words were wrong in several parts e.g., "no" for "an", "was" for "like", "very" for "be"' and eight had correct beginnings e.g., "wooly" for "white", "mean" for "meat", "runs" for "rat". 13 words were omitted altogether. This is about average omission rate for 37 errors (39%) according to Table V, and is approximately half the omission rate of the first testing. Michelle's reading was still very slowly laboured with each word studied carefully.

The Flash Presentation of Words resulted in a raw score of seven,

equivalent to age 7.2 at 2.0 grade level , an increase of two months on the first testing. Most words attempted began with the same sound as the target words, but later letters were lost e.g., "rug" for "reference", "form" for "unfamiliar". She tried a series of rhyming words to fill the gap of the missing endings e.g., "wog" for "who", "mog" for "much", "fog" for "feed", "bog" for "build", "cog" for "cruel", "log" for "landscape".

Michelle depended on sounding out individual letters in Test III Words:Untimed Presentation. This was successful for phonically simple words e.g., "run", "as", but vowel digraphs e.g., "train" and vowel shifts e.g., "ate" defied attempts at blending individual letters. Some words were guessed by general appearance, but this strategy was not very successful e.g., "man" for "men", "open" for "other". Her raw score, 14, is norm for grade 2.3, age 7.6 - the same result as in Form 1.

Test IV Phrases:Flash Presentation, produced a raw score of 3, grade 1.5, age 6.9, and slightly lower than her score in form 1.

A slight drop of 1 in raw score was also noted in the test designed to assess word attack. Michelle only managed to correctly identify one of the words in Test V-1, but when column two was attempted, was able to correctly identify six of the consonant digraphs. The errors still remain in the syllables containing vowels in various pronunciation shifts. Michelle's score was average for those at grade 2.0 - 2.2 level, age 7.3.

Michelle gained a perfect raw score in giving letter sounds, average for grade 4.8, age 10.0. Her one confusion in the form 1 test, 'z' for 'x', was not evident in form 2.

Tests V-3 and V-4 show dramatic improvements in retesting. In Naming capital letters Michelle scored 18, which is still below average for grade 1, and does not register in Gates McKillop's Tables. But her score is 12 more than in form 1. In naming lower case letters Michelle scored 20, which is the average raw score for grade 2.0, age 7.2 and is an increase of nine in raw score.

Michelle gained a raw score of eleven in Recognizing the Visual Form of Sounds, Test VI-1 Nonsense Words. Errors mainly still involved vowel sounds e.g., "telgest" for "telagest" and "sinkamess" for "sankamouse", and consonant digraphs e.g., "sankin" for "shankin", and "intome" for "inchitome".

In test VI-2, Michelle correctly identified 18 out of 19 initial letters, which Gates-McKillop count as near enough to a perfect score, not average till grade 3.8, grade 9.0, and is a rise of two months over form 1 testing. Michelle's earlier confusion of 'b' and 'd' seems to be corrected, but her one error was due to choosing 'q' rather than 'p'.

13 final letters out of 14 in Test VI-3 were correctly identified. Her choice of 'q' this time was instead of 't'. Michelle improved her

raw score by two on the retesting, and the Gates-McKillop average is for grade 3.9, age 9.1 . Test VI-4 Vowels was also given and Michelle's raw score of 5 was average for grade 3.0, age 8.2. This is one less in raw score than in Form 1, but this time some of the long vowels were recognised (vide, fope) and she confused some of the short vowels.

A perfect score of 15 was gained in Test VII Auditory Blending, and is the average for grade 4.5, age 9.8; a slight increase over Form 1 testing.

Several words were attempted in Supplementary Test VII-1 Spelling, an improvement over phonetic sounding out reliance in Form 1 testing. Michelle correctly spelt four words, which is the norm for age 7.4, grade 2.2. Similar improvement was also evident in Test VIII-3, Syllabication. Three words were attempted and correctly pronounced on second attempt (first attempt individual sounds, second attempt blended). This is the average score for grade 2.5, age 7.8.

Michelle's oral vocabulary, which was previously measured at the 8.0 year level, rose to the 10.4 year level, with a raw score of 11. Several surprising words were correctly identified e.g., "refute", "devoid", "lacquer", and could have been lucky guesses - but the norms were compiled with subjects having equal chances at lucky guesses, and include a component to be deducted for unlucky guesses (number correct minus 1/3 number wrong). So it seeems Michelle's oral vocabulary remains a strong feature.

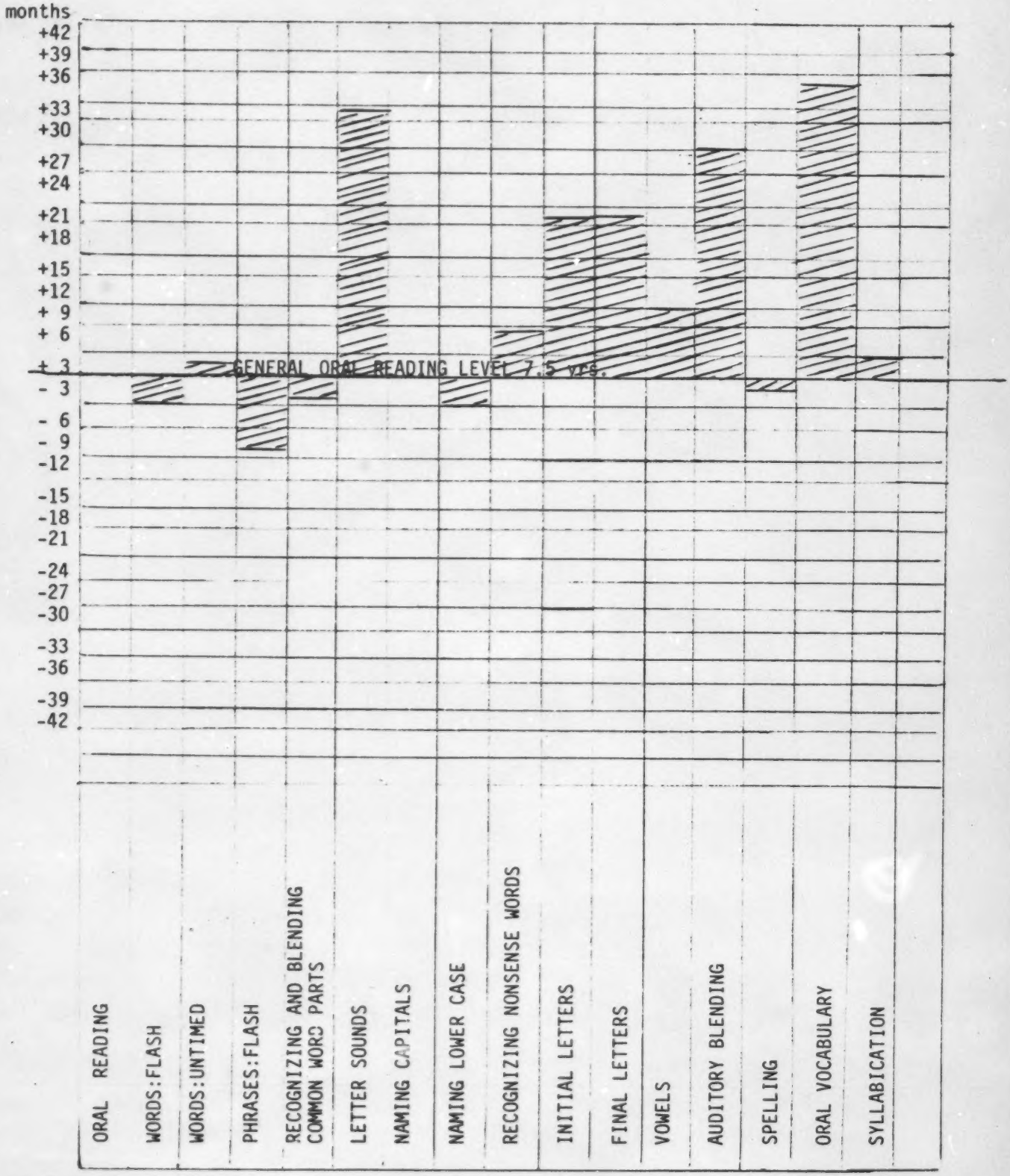
Subskills in which Michelle scored abover her general oral reading level were: recognizing initial letters, recognizing final letters, recognizing vowels, words:untime, auditory blending, oral vocabulary, recognizing visual form of nonsense words, and giving letter sounds.

Subskills in which Michelle scored below her general oral reading level were: words:flash presentation, phrases:flash presentation, recognizing and blending common word parts, naming capital letters, naming lower case letters and spelling.

The following graph shows Michelle's results in the Gates-McKillop Reading Diagnostic Tests, Form 2, with results expressed in age norms above and below general reading ability.

TABLE 18

MICHELLE'S RESULTS IN THE GATES-McKILLOP READING DIAGNOSTIC TESTS FORM 2, WITH SUBSKILLS EXPRESSED IN AGE NORMS ABOVE AND BELOW HER GENERAL READING ABILITY



A further probe into Michelle's reading strategies was attempted by use of Goodman and Burke's Reading Miscue Inventory. 91 miscues were recorded in one story "A Day at Home", 35 were coded as using graphic, phonic or grammatical cues.

None of Michelle's miscues fell into the no graphic similarity category, 16% were highly similar and 74% partially similar. The hero's name wasa called "Bill Witson" instead of "Bob Watson". "Bill" is partially similar to Bob, having first letter and overall word shape in common, while the attempt at the surname involved only one letter difference. "Oh" was substituted for "on" twice. Graphic similarity here is quite strong, the only distinctive difference being the length of the second letter's vertical line, although the words have different shape patterns. "The" was substituted for both "then" and "there" with graphic similarity noted in the first three letters and general word shape. Partial graphic similarity was also noted in abandoned part words and/or attempts to sound words out. First letters were usually attended to e.g., "w..er...er" for "was", and later the same word was fully sounded out "w-a-s" but then pronounced as "want". Similarly "s-t-o-r-e-" was attended to sound by sound, and finally determined to be "said". Other words were attempted in a whole word attack style, with the beginnings of the miscues bearing graphic similarity o the target words e.g., "make" for "mail", "wInd" for "window", "home" for "house". The Ms in "Mrs. Miller" were variously attended to, producing attempts such as "mother" and "mum". Ends of words were sometimes lost, while the beginnings were correct

e.g., "come" for "coming", and "jump" for "jumped".

Only one of Michelle's miscues involved no sound similarity, and that was when she tried to sound out a word beginning with a silent letter! ("k..er.." for "knew".) 28 or 84% of Michelle's miscues involved partial sound similarity, and five or 15% involved high correspondence. High sound similarity was evident in sounding out whole words, e.g., "t-r-u-c-k", but being unable to blend them into a meaningful whole unit. Sound similarities are noted particularly at the beginnings of words, with the ends of words eith completely different e.g., "make" for "mail", "with" for "when", or tapering off into nothing e.g., "come" for "coming", "jump" for "jumped", "w..er.." for "was".

Of Michelle's substitutions, 23 or 67% were of inappropriate grammatical function, and 9 or 25% related only to preceding or following text, but not to whole text. Only 3 or 8% of miscues met the total grammatical requirements of the text. Verbs were substituted for nouns e.g., "sit" or "said" for "street", "make" for "mail", "wInd" for "window". Even when verbs were correctly identified she did not attend to the past tense, or continuing markers. Partial grammatical acceptability was most successful in substituting nouns for nouns e.g., "home" for "house" or "hoses", "mum" or "mother" for "Mrs. Miller".

Michelle did not once successfully correct herself in the story. When self correction, grammatic acceptablity and meaning change are

cross-referenced, overall grammatical relationships are found to be very weak. Less than 3% show strength or partial strength. A total of 88 of her 91 miscues or almost 98% show grammatical weakness with odd words attempted in no continuous flow.

Every miscue involved some loss of meaning, with 5% partial loss and the remainder 85 miscues or 95% total meaning loss. Nearly 60% of Michelle's miscues were omissions (56/91). Most of the words omitted were realized to be unfamiliar or unconducive to letter by letter sounding out. She bravely plodded through the text saying words or phrases she recognized, or valiantly trying to sound others out. No words were inserted.

The following table is from a Reading Miscue Inventory Reader Profile Sheet expressing grammatical relationships, comprehension and sound/graphic relationships use as bar graphs.

When Michelle read "The Old Man, His Son, and the Donkey", a total of 115 miscues were recorded for analysis with the Reading Miscue Inventory. Approximately half of these were omissions (no words were inserted), and 58 were substitutions that could be analysed for graphophonic and grammatical similarities.

None of Michelle's miscues fell into the no graphic similarity category, 9% were highly similar and 91% partially similar. Most of those categorised as highly similar involved Michelle correctly sounding out the individual letters, but being unable to successfully blend them, e.g., "f-a-r", "s-o-o-n", "m-o-r-e". When broken into individual letters for grapheme/phoneme mapping these words are only partially similar to what the target words sound like, but all graphemes are correctly identified. One of Michelle's high graphic similarity miscues involved the repetition of a whole phrase - "the old man ...". Most of Michelle's miscues bore partial graphic relationships to the target words. Often they started with the same letters e.g., "went" for "were", "three" for "there". "man" for "men", "your" for "you". Michelle did not display much consistency in her substitutions; "the" was given for "they", "this" and "that"; while "went" was given for "were", "walked" and "walk"; and "man" substituted for both "must" and "mean".

Only one of Michelle's miscues was completely sound-disimilar and that was because she tried to sound out a word beginning with a consonant digraph followed by a vowel digraph; "s-h-o-u-t-e-d-". Taking these

grapheme by grapheme it is not wonder she could not blend them! When she tried to sound out "s-o-o-n" she came very close in her double vowel so it was categorized as a highly sound similar. The double 'o' combination was tried again later in the story with "fools"' After a tentative sounding out session, she corrected herself to the right pronunciation. As with the graphically similar repeated phrase, it was also similar in sound. Thus 5% of Michelle's miscues were highly graphically similar to the target word, and the remaining 93% partially similar in sound. Most attempts began with the target sound e.g., "not" for "no" or "now", "come" for "could", "jumped" for "just", "something" for "some", "run" for "ride". Some even had beginnings and endings both right e.g., "come" for "came". Most problems seemed to involve vowels and ends of words.

34 of 58% of Michelle's miscues were grammatically inappropriate, and 16 or 28% related only to preceding or follwing text, but not to whole text. Only 8 or 14% of miscues met the grammatical requirements of the text. Verbs were substituted for nouns e.g., "gone" for "girls", but even when verbs were substituted for verbs the tense or meaning were not observed.

Michelle corrected herself once in all her miscues "little ... like". When self correction, grammatic acceptablity and meaning change are cross referenced, overall grammatical relationships are found to be very weak. Only 4% showed strength, partial strength or overcorrection. A total of 111 or 96% of miscues showed grammatical weakness with odd words attempted in no continuous flow.

Three miscues occurred with no loss of meaning. 12 miscues showed partial loss e.g., "the" for "that". "come" for "came", while partial loss occurred when "farmer" was substituted for "father" as they both referred to the same person. Half of Michelle's miscues were omissions (57/115). Most of these were realized to be unfamiliar on sight, and she often passed over words saying "I don't know that one".

The following graph is from a Reading Miscue Inventory Profile Sheet and expresses grammatical relationships, comprehension and sound/graphic relationships use as bar graphs.

TABLE 20

TABLE XII

READING MISCUE INVENTORY READER PROFILE

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Reader Michelle Date October 1972 Selection THE OLD MAN, HIS SON AND THE DONKEY

Teacher _____ Class _____ School _____

COMPREHENSION PATTERN

Percent of relationships of No Comprehension Loss 3
Percent of relationships of Partial Comprehension Loss 11
Percent of relationships of Comprehension Loss 86

Reader's Use of Reading Strategies:

- Highly Effective ☐
- Moderately Effective ☐
- Some Effective ☑
- Ineffective ☐

Percentage Line: 0 10 20 30 40 50 60 70 80 90 100

NO LOSS 3% | PART LOSS 11% | LOSS 86%

Frequency Line

RETELLING SCORE 10

SOUND/GRAPHIC RELATIONSHIPS						GRAMMATICAL RELATIONSHIPS						
Sound			Graphic			Function			Relationships			
High	Some	None	High	Some	None	Identical	Indeterminate	different	Strength	Partial Strength	Weakness	Overcorrection
100	100	100	100	100	100	100	100	100	100	100		100
90		90	90		90	90	90	90	90	90	90	90
80	80	80	80		80	80	80	80	80	80	80	80
70		70	70		70	70	70	70	70	70	70	70
60		60	60		60	60	60		60	60	60	60
50		50	50		50	50	50		50	50	50	50
40		40	40	40	40	40	40	40	40	40	40	40
30	30	30	30		30	30		30	30	30	30	30
20	20	20	20	20	20		20	20	20	20	20	20
		10			10			10	10	10	10	10

Repeated and Multiple Miscues

Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction	Reader	Text	Frequency of Miscue Occurrence	Frequency of Text Item Occurrence	Occurrence of Correction

4.5 The following table shows the combined results of the four early readers on the Gates-McKillop Reading Diagnostic Tests and Reading Age Tests.

Daniel had the highest reading ability on all tests and the highest difference between chronological and reading age. Michelle scored the lowest reading ability on all tests and the lowest difference between chronological and reading age. All children increased slightly in reading ability over the five months between testing.

All early readers initially exhibited strength in the subskill of recognizing and blending common word parts, but Michelle did not develop this subskill to keep pace with her improvement in general oral reading level.

Daniel, Melanie and Jennie also showed strengths in recognizing whole phrases presented in one second flash, and syllabication. Michelle's strengths lay in the subskills of letter sounds, initial letters, final letters and auditory blending. In her first testing Michelle did not attmept any of the syllabication test words, but a start was made in the retesting and she successfully pronounced three.

Michelle's initial skills in word and phrase recognition, flash presentation had matched her general oral reading level. But these skills had not grown, and had even regressed between testing sessions.

Daniel, Jennie and Melanie had not developed the skill of reading words in isolation, but could pronounce and recognize difficult nonsense words. Daniel and Melanie had a weakness in untimed isolated word recognition, while Jennie had not developed her skills of initial and final letter recognition and spelling. Michelle's weakness involved not knowing alphabet names and spelling

A varied use of other subskills shows no overall pattern for oral vocabulary strength and other subskills. Each early reader showed stability of strategies, with no dramatic improvement in any subskill to match the slight rise in general reading ability.

Michelle's use of graphophonic cues was almost total, but not very successful, while Daniel ignored them 35%-40% of the time. Jennie's and Melanie's reliance on sound and graphic similarity was in between these.

Daniel's and Jennie's use of grammatic relations was very strong, while Michelle ignored syntax in 67% and 58% of her miscues. When retested 5 months later with more difficult reading material, a greater reliance on graphic and phonic cues became apparent.

TABLE 21

COMBINED RESULTS OF READING AGE TESTS AND GATES-MCKILLOP READING DIAGNOSTIC TESTS.

NAME		READING AGE	SUBSKILLS ABOVE GENERAL ORAL READING LEVEL	SUBSKILLS BELOW GENERAL ORAL READING LEVEL
DANIEL	1st Testing	D & D 9.1 Schonell 9.6 G & M 10.3	Phrases: Flash Recognizing & Blending common word parts Recognizing Nonsense words Spelling Syllabication	Words: Flash Words: Untimed Oral Vocabulary
	2nd Testing	Schonell 12.6 G & M 10.5	Phrases: Flash Spelling	Words: Flash Oral Vocabulary
JENNIE	1st Testing	D & D 9.0 SCHONELL 9.0 G & M 10.3	Phrases: Flash Recognizing & Blending common word parts Recognizing Nonsense words Syllabication	Words: Flash Initial letters Final letters Spelling Oral Vocabulary
	2nd Testing	Schonell 9.3 G & M 10.10		Words: Flash Words: Untimed Initial letters Spelling Oral Vocabulary

TABLE 21 cont.

NAME	READING AGE	SUBSKILLS ABOVE GENERAL ORAL READING LEVEL	SUBSKILLS BELOW GENERAL ORAL READING LEVEL
MELANIE 1st Testing	D & D 9.0 Schonell 9.0 G & M 9.10	Phrases: Flash Recognizing & Blending common word parts Vowels Spelling Oral Vocabulary Syllabication	Words: Flash Words: Untimed Recognizing Nonsense words
2nd Testing	Schonell 9.8 G & M 10.3	Oral Vocabulary Blending word parts	Words: Flash Words: Untimed Spelling Recognizing Nonsense words
MICHELLE 1st Testing	D & D 5.9 Schonell 5.7 G & M 7.0	Words: Untimed Recognizing & Blending common word parts Letter sounds Initial letters Vowels Auditory Blending Oral Vocabulary	Naming letters Spelling Syllabication
2nd Testing	D & D 6.2 Schonell 6.3 G & M 7.5	Words: Untimed Auditory Blending Letter Sounds Initial letters Final letters Vowels Oral Vocabulary Recognizing Nonsense words	Words: Flash Phrases: Flash Recognizing & Blending common word parts Naming letters Spelling

D & D = Daniels and Diack. G & M = Gates-McKillop

5 DISCUSSION

5.1 Daniel's general pattern of miscue for the first testing alters slightly when revised, with percentages for overcorrection and graphophonic and syntactic similarity somewhat reduced, and consequently partial similarity slightly increased. But the second testing passages produced more repetitions, so the revised graphs show a lower sound/graphic reliance than the original pattern.

Over both testing sessions, however, there is ample evidence that Daniel is a very efficient young reader with many different strategies well under control. His perfect knowledge of graphophonics is a very suprising element. Indeed, the answers and help given to him from his parents has stressed more the letter names rather than sounds, and the syllabication and vowel digraph knowledge he so competently uses is his own discovery. Yet, despite this ability to use graphophonic cues so correctly, he often disregards them in reading continuous text. 40% - 50% of his miscues involved no sound similarity to the words written in front of him, and 35% - 45% involved no graphic similarity. It seems Daniel's use of graphophonic cues is over-ridden by more forceful constraints. These are semantic and syntactic.

Not one of his miscues was completely grammatically inappropriate, and only one involved comprehension loss. There was a decrease in grammatic strengths and comprehension in the second testing, but

Daniel never totally ignored these cues as he did graphophonic cues. Of miscues that were only partly grammatically or semantically right, he usually returned and self-corrected. Grammar or semantic violations caused this self-correction more often than deviance from graphophonic cues.

Daniel seemed to pay particular attention to story conventions of dramatic language by inserting words to increase the impact of important points. Redundant or implicit words that could be omitted often were. Oral reading for Daniel may be likened to a dramatic performance where deviations are made from the script to suit the needs of the particular occasion.

Daniel's reading strategies thus seem to draw heavily on semantic and syntactic cues, while graphophonic cues, although well mastered, are of secondary importance. He shows reliance on meaning and natural grammar flow, and uses graphophonic cues most carefully when unfamiliar vocabulary is encountered.

Other than a large jump in score in the Schonell Graded Word Reading Test (which may be explained by a change in attitude to pronouncing non-meaningful words), Daniel's reading performance did not greatly alter over the five month interval between testing. Strengths and strategies remained stable, but the stories for the second testing were less comprehensible to him and part meaning loss rose from 1% to 36% (45%). Repetitions after initial hesitancy increased from 4 to 11, as the textual difficulty was greater. Holdaway's (1981) view

that this sort of repetition is useful as a filler and organizer when text becomes difficult and Kibby's (1979) finding that strategies change and miscue patterns alter as difficulty of text increases are both supported. Daniel was using this pattern in the first testing, but increased its use for the second testing.

5.2 Jennie posseses a very sophisticated and abstract knowledge of phonetics. She can recognise, analyze and pronounce complicated multi-syllable words competently, both in context and in isolation. However, when reading continuous text, she disregarded graphophonic cues in 27% of her miscues in the first testing. A different pattern emerged when Jennie read after 5 months. Her reliance on sound/graphic relations became more important, and she did not ignore these cues once. Perhaps as comprehension decreased and more unfamiliar words were encountered, Jennie needed to use her graphophonic knowledge to a greater extent.

But in both testing sessions it became clear that the over-riding constraints in Jennie's story reading are grammar and meaning. Correct syntax and semantics are what Jennie looks for in sampling the written words to confirm her expectations in these areas. Miscues are thus based more on meaning and grammar with graphophonic cues as a backup.

Jennie is a careful reader with a high self correction rate. It seems she anticipates on meaning and grammar cues, but when this does not correlate with actual printed words, she repeats and corrects. Or when unfamiliar vocabulary is encountered she slows to examine an individual word more carefully. Perhaps this is why she could recall so much detail in her retelling and why her comprehension score is so high.

Her attention to detail and self correction does not detract from

fast, flowing reading. Jennie attends to whole sentences or phrases, and thus reads in large chunks. This results in simultaneously fast but accurate reading with high comprehension.

5.3 Melanie is a skilled, fast reader. She reads in large chunks, as seen by the length of her repetitions, and her rephrasings. Unfamiliar words are skimmed over and meaning guessed at by context. Mostly this is successful , but sometimes semantic shades and details are lost.

Yet this is not because Melanie does not have the necessary skills to sound even complex words out. She has sophisticated phonic analysis and syllabication skills well under control, but it does not seem important to stop for graphophonic exactness while reading continuous text. Speed in dealing with large amounts of information over-rides graphophonic detail.

Melanie seems to skim along the text, picking out key words, phrases and propositions. Her oral reading is very fast, and one has the impression that reading the words aloud is too much a hindrance for her. She is keen to get on with the story.

But when nonsense words with no context are used, she enjoyed taking the trouble to find or produce the unusual words. The word patterns and sounds were enjoyed for their own sakes.

Melanie seems to make a distinction between reading a story and reading for detailed exactness. In her story-reading strategy she skims, anticipates, selects and rushes quickly to what is happening next. When exact pronunciation of isolated words is required, she can shift to careful analysis and succesfully use complex word analysis

skills.

Melanie's subskill strengths and weaknesses and her pattern of miscues between the two testing sessions remained stable, despite an increase in reading age and complexity of material presented for oral reading.

5.4 Michelle has started the reading process in the way her friends have taught her to "play school". She associates every letter with a sound. Consonants and even some consonant digraphs are correctly identified. Vowels are only recognized in their short form. Vowel pronunciation shifts in whole syllables that are not conducive to letter-by-letter sounding out are not yet able to be tackled.

She displays an over reliance on sounding out letter-by-letter, even when it is not appropriate in words beginning with "silent letters". She often makes a detailed study of words with audible trials. This is very slow and laboured, and the meaning and grammatical flow of sentences or even words are lost. This over-reliance on letter-by-letter sounding out also often results in words being attempted and abandoned.

Sometimes Michelle could correctly sound out phonically simple words, but was unable to successfully blend them into a correct, meaningful whole. She is very competent at blending in an auditory presentation, but has not yet transferred this skill to the reading task. It seems she is trying very hard to attend to phonic and graphic cues instead of looking for whole meaningful words, phrases or sentences. No other strategy seems to be at her disposal yet.

Some confusion seems to linger about correctly identifying "reversable" letters (b,d : p,q). Because Michelle relies so much on individual grapheme-phoneme correspondence, this is more of an obstacle than if words were seen as units within phrases within

sentences. Over the five months between testing, Michelle had sorted out b and d confusion, but still remained unsure about p and q.

It is interesting to note Michelle's lack of knowledge of alphabet identification, even though she can recite the alphabet. This skill increased between testings, but still remained low relative to general reading ability. Without being able to alphabetically name letters, her attempts at spelling and syllabication are extremely limited. It is difficult to see how her reading can prgress much beyond its present stage until letters can be described by their names so that she has access to the variety of phonemes associated with any one particular letter.

Yet Michelle seems to suspect that her graphophonic strategy often lets her down. Her abandonment of words that prove unconducive to this strategy is a symptom of disillusionment. Stanovich (1980) found that poorer readers do not complete the analysis of the internal letter structure of strings.

A further symptom of disillusionment is her extraordinarily high rate of omissions. Many words are looked at and just passed over. Guessing, hypothesis-testing, use of context, and search for meaning do not seem at all important. Perhaps Michelle is passing through something akin to Biemiller's (1970) non-response stage. In the retesting session Michelle's omission rate decreased somewhat and she seemed more willing to try unfamiliar words. These attempts, however, still showed reliance on decoding rather than making use of context.

Michelle's pattern of miscues remained stable over the two testings, with very little use made of grammatic relationships, and graphophonic cues heavily relied on, but only partially successful.

Her efforts to read seem mostly to be motivated by the praise and encouragement she receives from older children. The social rewards seem more important than any instrumental value or intrinsic satisfaction. Many of Durkin's (1966) early readers were reported to have "played school", usually on the initiative of an older sister.

6 GENERAL IMPLICATIONS OF THE STUDY

6.1 Motivation to Attend to Print.

The more proficient readers in this study seem to have been motivated to learn to read because of its intrinsic value, rather than becauses of social expectations. Indeed, the three more advanced readers caught their families and friends quite by surprise with their ability, and they even "play down" the precocious reading to avoid sibling rivalry. Print seems to have been a more important factor than other possible stimuli they could concentrate on. Motivation for early self-taught reading seems to be an important variable in the strategies used and in the level of skill achieved. Another possible reason for precocious reading could be a special inclination to attend to print. Perhaps it is too rash to support Silberg's (1971) hypothesis that early readers could be people with an inherited trait making reading especially easy for them. The family questionnaires in this study agree with Durkin's (1966) findings, that most early readers seem to have a special inclination or predisposition to attend to print. All children were curious about numbers and letters and asked questions about them. Daniel spent much of his play writing stories and letters for members of his family, and even his drawings included print e.g., pictures of cars included numbers and letters on number plates, and drawings of houses and buildings included names, signs and advertisements (he lives opposite Fletcher Jones Factory and can see plenty of writing about slacks and trousers from his windows).

Playing with print in the everyday environment encourages self-confidence about reading. Holdaway (1981) argues that the pre-requisites of a skill being acquired as part of normal development (instead of being externally imposed or taught) are that it must be seen to be used by the community and significant others, the learner spontaneously begins to role-play as a user of the skill, and then develops a self concept as a user of the skill. More proficient readers in this study see themselves and are seen by other as "readers" without waiting for instruction or external rewards. The less proficient one perceives herself as a "learner". The more proficient readers have drives for self-motivated practice and monitoring, within the framework of their own creative play. Daniel, Jennie and Melanie were continually reading and writing as part of everday private and social play. Michelle seemed to mainly read as part of her playing school games under the direction of older children.

The implication for teaching reading here is that an informal, relaxed, and playful environment with print as an important input can produce fluent readers at a very young age. Holdaway (1981) urges teachers to "induce emergent literacy" by reading good quality literature aloud with the children frequently, with interaction, participation, repetition, and role playing. With labels and signs for stories and pictures, exploration of print in everyday environment and free access to books and writing materials, children may be encouraged to develop concepts about themselves as readers and

writers, and to ask for specific help in unlocking the literacy code without formal instruction in all aspects of reading.

This is not to say that all children will learn to read fluently without or before formal instruction. But not all children successfully learn to read with formal instuction. If an informal, play-like, print-rich programme precedes formal instruction, schools or preschools may help induce emergent literacy, and fluent young readers may develop without painful learning-blocking failure labels. Perhaps this may mean that formal instruction for many children may be delayed while they engage in playful emergent literacy. Formal instruction would then be necessary only for those who have not learnt to read in this informal, print-rich environment, and perhaps only in those areas that have remained underdeveloped. This approach is not new, but seems rarely practised. The wider literature in support of such a concept is mostly based on gut feeling and intuition. What is needed is more empirical evidence.

6.2 Implications of Subskill Distribution.

The subskill weaknesses exhibited by the less proficient reader and not by the more proficient were naming (as opposed to sounding) capital and lower case letters, spelling and syllabication. These are all related to a knowledge of alphabet names. This is in keeping with findings of Chall (1976). Clark's (1976) early readers could define and give examples of a letter and the early readers of King and Friesen (1972) and Morrison, Harris and Auerbach (1971) were particularly good at letter names.

But if good readers are faster and more accurate at naming letters than poor readers, it cannot therefore be concluded that knowing letter names helps children learn to read, and hence that learning to read must rely in part on using letter names to convert a printed representation to a phonological representation. Despite the well established finding that letter naming ability is an important predictor of reading ability, Coltheart and Doctor (1980) claim it is possible, even plausible, that the direction of causality is opposite i.e. learning letter names is a consequence of learning to read, not a pre-requisite. Moreover, the possibility also exists that the relationship between letter naming ability and reading ability is not causal at all, but the apparent correlation is due to the influence of some third variable that influences both how well a child learns to read and how well he learns letter names.

Several studies have claimed that early readers rely extensively on

phonological recoding. Biemiller's (1970) suggested three phases of reading development shows a progression from free use of context cues, to graphophonically constrained responses to co-occurrence of graphic and contextual constraints. Mason's (1980) second stage also involves children analyzing words into letters. The less proficient reader in this study was certainly found to be far more dependent on graphophonic cues than the more proficient, and at first glance this may seem to support the hypothesis that phonological recoding is an early step in the learning to read process. But it is clear that readers from the beginning rely on visual as much as graphophonic strategies. Less proficient readers may use graphophonic cues more because they know fewer words. An extension of Stanovich's (1980) interactive-compensatory model of reading may explain these differences. Poor readers may use graphophonics more because they know less words visually. However, good readers are better than poor readers at using graphophonics. It is just that they don't need to use them as much. This may explain why the more proficient young readers scored so highly in graphophonic knowledge subskill tests, and yet did not rely on this skill when reading continuous text, while the less proficient reader relied so heavily on these cues despite inadequate and undeveloped graphophonic skill.

Many parents in other research cited and in this study mentioned having told their early readers "the sounds of the letters", but none mentioned the child independently requesting or using this information. The children usually ask how to spell words, not sound them out. Read's (1971) preschoolers were not attending to

statistical associations between spellings and individual phonemes, but had abstractly categorized segments of words in terms of a hierarchy of articulatory features. The less proficient reader in this study had only mastered individual grapheme to phoneme mapping, but the more advanced young readers had mastered sophisticated phoneme-grapheme mapping strategies and could pronounce and recognize nonsense words and syllables with skill and precision. Knowledge of letter-sound correspondence in this subskill is subordinate to more abstract and generalized knowledge. It is possible that this inferred generalized phonic knowledge is among the first steps in self-taught reading. It is not safe to infer that one letter -- one sound phonics plays a small part in early reading strategies. But it does seem possible to become a skilful reader without ever showing much relaince on simple phonic coding. Graphophonic principles that are useful in reading acquisition are abstract and perhaps cannot be taught explicitly. Explicit teaching of graphophonic correspondence may not be relevant to learning to read, and may even stand in the way of developing more sophisticated strategies.

Y.Goodman (1968) found that graphophonic miscues increased in sophistication over the development of reading, showing increasing abstraction and phonic generalization. The three more proficient readers in this study showed great strength in the subskill of syllabication, which is related to general orthographic patterns and rules. Sakiey, Fry, Goss and Loigman (1981) have found that a relatively small number of syllables account for a large proportion of our written language. This correlation again raises the question of

direction of causation or dependence on another variable. Are they good readers because they have mastered syllabication? Or do they score high on syallabication because they score high on general reading? Or does a special predisposition or inclination to attend to print help them at both general reading and inferring and categorizing abstract orthographics?

One possible explanation for more proficient readers' high scores in phonological identification of words, nonsense words and syllables has been sugested by Jorm and Share (in press). Perhaps phonological abilities serve as self-teaching mechanisms by which words are eventually identified visually. The more efficient the phonological coding, the quicker the children learn to read, because fewer learning trials are needed. Perhaps this is why the nonsense words, blending and syllabication abilities of the early readers are so good - they have a powerful self-teaching mechanism. But this interpretation can only be speculative because of such large ceiling effects in the data. With subjects of this level of reading ability, further research may need speed data as well as error data.

Another subskill strength that was common to the three more proficient readers was the ability to recognize phrases quickly and accurately. This skill in reading large chunks was also evident in their story reading. Kintsch and van Dijk (1978) hypothesize that individual differences in chunking ability accounts for variations in comprehension ability. Biemiller's (I981) suggestion that good and poor readers differ in the processing of individual features may also

be a clue here. The more skilled readers did not need to process individual letter features, individual letters, syllables, or even individual words. They were able instead to quickly "chunk" the incoming information into syllables, words, phrases, or even propositions. They seem to be able to perceive the text in units, and rapidly recognize words and word parts within these units. But the attention of the less proficient reader is consciously taken up with letter recognition, decoding, and word building, so that short term memory is overloaded with individuasl letters and no room is left for storing larger units. But is skill in "chunking" the cause of the good reading or the result of much experience? Or perhaps such a skill may depend on a separate cognitive or perceptual variable such as short term memory span.

Clay (1968), Goodman (1968) and Weber (1970) found children beginning to read showed an awareness and high use of syntactic cues. The children in this study showed a progressive awareness of syntactic constraints from a small amount in the less proficient to a high dependency in the more proficient. Insertions and omissions of the more proficient readers were usually consistent with context and syntax. But for recognition of unknown words they could all competently decode phonologically. Perhaps Reading Miscue Inventory coding of miscues does not give an accurate indication of use of context. A better way may be to compare the reading of a story with the reading of the same words singly.

Any child who can talk grammatically can use context to guess at

unknown words. But the less proficient reader in this study failed to make use of these cues because she was processing words individually, and did not perceive them as part of a continuous, meaningful sentence. Perhaps the more skilled readers have attained their level by using grammar to provide immediate and intrinsic feedback to check errors. A child with definite expectations that written words will flow according to known grammar need actually know only some of the words in order to reduce greatly the the uncertaintly about what remains. The self-taught reader using this strategy could use his own linguistic competence to advance and correct reading.

This would be an effective self-teaching strategy and need not become a permanent feature of the approach to the printed word. The balance of use of context and graphophonic cues may change over time. As Stanovich (1980) points out, as more words are rapidly recognised visually, less dependence on context analysis is evident. However, in apparent contrast with Stanovich's view that poor readers use context more than good readers, Michelle appeared to make very little use of context. This may have been because she had not yet learned to compensate for word identification deficiencies by use of context, or because she was not able to identify enough words in the passage to make any effective use of context. It could be that the less proficient reader was not able to use context cues because she could not recognise or decode enough words to know what the context was.

Other subskills seem to be scattered throughout the more and less proficient without any apparent order. The two more proficient

readers scored relatively lower or oral vocabulary than the two less proficient. Spelling was a strength in the children ranked first and third, but a weakness for the children ranked second and fourth. Spelling is not usually a reading skill but may be a measure of decoding and phonic analysis skills. Knowledge of initial and final letters was a strength of the weakest reader, but not of the more proficient. Despite the close approximation in reading ages of the three more proficient readers, it does not appear that they all gained information about print in a uniform, linear sequence. From the miscue analysis reader profiles, it appears that they are not using phonic, graphic , syntactic and semantic cues to the same extent.

Goodman (1968) found that each beginning reader showed a wide variety of strengths and weaknesses, and each individual development pattern was different. Yet these children were all undergoing the same method of instruction! It should therefore not be surprising that four dispersed individuals should learn different things about various aspects of written language from their different environmental experiences. Torrey (1979) concluded that the data on differential abilities generally suggests that early readers may owe their achievement in part to a number of small advantages in ability, but they do not point to any identifiable factor that alone explains fully their unusual learning to read ability.

The young readers studied in this research exhibit different patterns of subskill strengths and miscue strategies. Stanovich's (1980) interactive-compensatory model would imply that readers poor in one

strategy may compensate by using another. But the less proficient reader did not use context or grammar cues to make up when graphophonic cues could not be mastered. And the more skilled readers were not at all unskilled in graphophonic knowledge and yet still used syntactic and semantic constraints. Thus individual differences cannot be so easily explained by saying that one skill or strategy compensates for another which is weaker. Although Stanovich is talking about general trends in older children, individuals will be different in their development.

The rich diversity of skills of fluent young readers suggests both higher and lower levels and strategies are important and develop together. This may be explained by interactive models of reading. Hiebert's (1981) hypothesis is that the development of reading is in general stages with skills and concepts occurring simultaneously on numerous dimensions, and so interwoven that all concepts and skills emerge together.

Furthermore, the more skilled young readers varied their strategies in accord with different task demands. Only oral responses were examined, but it may be assumed that silent reading strategies would show yet other variations. However, the less proficient reader used only phonological decoding regardless of variation in task demands. Proficient readers of any age have a rich diversity of strategies to draw on and use them interactively. If these strategies develop in parallel they reinforce each other and serve as self-teaching devices to develop mature automatic visual word identification. Any one

strategy may be applied more or less skillfully, and individual differences in skill in certain areasa may be more important in determining overall reading skills than individual differences in other strategies. Perhaps phonic ability may contribute more, as syntactic abilities of children are similar.

Instruction based on sequential stage madels may therefore be worse than ineffective. It may even be counter-productive for the successful development of fluent reading. Formal instruction based on sequential skills models assumes that learning stems from direct instruction and curriculum can be broken down into teachable parts. These segments are assigned a right/wrong status within which only one response is right. Learning is controlled extrinsically by teachers and responsibility for attention, effort, application and success/failure is placed on the learner.

The existence of young children who learn to read fluently before school questions all these assumptions. Oral language is successfully learnt by nearly all members of the population to an acceptable level of proficiency for everyday use, yet it is mostly assumed that written language must be explicitly taught. Holdaway (1981) instead argues that written language should be encouraged and induced in a similar manner to spoken language. Perhaps we would then see similar success rates. Later formal instruction would then refine specific skills for specific usage and needs. It is widely acknowledged that oral language usage and acquisition is so complex that it is not enough understood in all aspects to be successfully taught. It seems

likely that the same may apply also to written language.

6.3 Implications for Further Research.

Interpretation of this research is particularly difficult because of the large ceiling effect. Three of the four young readers were so fluent that they not only made relatively few miscues, and there were of a sophisticated type, but they also scored perfectly on many subskills, while the fourth reader was at the barely take-off stage. It was hoped that the subjects available would be of varying abilities and developmental trends would emerge between the more and less proficient and between testing sessions. It has been possible in part to describe individual patterns of skills and strategies, and to see what the more proficient readers were doing differently from the less proficient. But developmental trends in reading acquisition of the three more proficient young readers have been missed, as they were already so far advanced when first tested. As the literature review found it confusing to untangle beginning readers and early readers, this study has also found them to be separate yet interwoven strands. It seems that young readers who are recognised to be reading are of such an advanced stage that they can no longer be termed beginners. For most the beginner stage seems to have been either hidden, not recognized or passed through so quickly that they were fluent readers before their parents had realised they had even begun. Preschool readers are rarely described in beginner stage, but beginner readers are preschool or early school age children.

Further research into the strategies and skills of children who read before school should try to catch children in many facets of earlier

stages of literacy. Smith's (1978) comment on how the large quantity and complexity of literacy ability children bring to school with them and the way these skills and concepts are either ignored or asasumed not to exist (Goodman, 1979) reveal how little formal reading instruction understands or cares about building on total and continuous development. An interesting approach for further research may be to capture the whole range of abilities, skills, concepts, and strategies about print that is represented in a given preschool or prep. class. Developmental trends may they become more appareent, especially in a longitudinal study over one or two years.

Further research into reading before school will need to use several reading age tests of different styles (prose, sentences, isolated words) as a cross reference for reliability, as it became obvious during the course of this research that there is a great deficiency in effective measuring devices for reading. The reading age measures of Daniels and Diack Standard Reading Tests and Schonell Graded Word Reading Tests generally agreed, and were consistently lower than the Gates-McKillop Reading Diagnostic Tests general oral reading ability tests. But the one notable exception to thisconsistency came in Daniel's retesting score of 12.6 in the Schonell test. This represented a rise of 3 years in reading age, while his Gates-McKillop score showed a rise of 2 months. It might be sugested that Daniel approached the Schonell test differently on each testing. The first time he sought for meaningful words to read but the second time he attempted all words as polysyllabic units without being put off by not recognizing or understanding the word. His experience with the

Gates-McKillop subtests involving nonsense words may have assured him that this was an acceptable strategy. Experience with a variety of reading tests will influence approaches taken and results in subsequent tests.

Another methodological implication for further research stems from the crudeness of reading age scores, which is well illustrated in the graphs of subskills compared to general reading ability. It might be assumed that reading subskill ability would generally follow the age norms for all subskills i.e. a child who reads equivalent to the average 9 year old would have word recognition skills also equivalent to the average 9 year old and decoding abilities also somewhat equivalent to the average 9 year old. But this was certainly not the case. In the first testing (not counting perfect scores and ceilings) Daniel's subskill abilities ranged from those comparable to a 9.3 year old for oral vocabulary and 9.7 year old for words out of context to those comparable to a child of 11.2 for syllabication and recognizing and blending common word parts - a difference of nearly 2 years. Jennie's subskill ability in recognizing and blending common word parts was equal to the average 11.10 year old, while her spelling was only equal to the average 9.0 year old and her oral vocabulary no better than the average 8.2 year old. Here we see a range of 3.8 years in subskill abilities m masked by a general oral reading level equal to that of an average 10.3 year old. Melanie's subskills norms zig-zagged from that equated with the average 11.6 year old to that of the average 7.6 year old instead of hovering close to the norms of her general reading ability of 9.10. And Michelle's general reading

level was that of the average 7.0 year old, but her ability to give letter sounds was equal to that of a 9.10 year old. Beside this high were her scores in letter names, which were so low as to be not even on the scale. Thus a score in reading age really tells very little about what a reader can or cannot do. A reading age score masks the complexity of reading subskills, strengths and weaknesses that a reader has and tells little about the strategies a reader has under effective control.

Another methodological implication for further research using miscue anlaysis with young fluent readers is that it would be valid to observe Holdaway's (1981) observations that straight repetitions should not be coded as errors. Daniel used them frequently as advance organizers or time fillers while he scanned ahead to check predictions and prevent real errors. It would therefore seem advisable to use a modified coding system with repetition of words and phrases not counted as miscues. Also, conceptually more difficult stories may not be the answer to generating more miscues, but rather more volume of reading matter to work on (over several short stories in several testing sessions for very young readers).

7 CONCLUSION

The literacy strategies and skills of young children are many and varied, yet formal instruction in reading often does not recognize them and capitalize on them. Theories of reading and reading acquisition are adequate only in so far as they can account for children who learn to read before or without receiving formal instruction.

Four early readers were studied in depth in this research with family questionnaires, reading age tests, diagnostic subskill tests and miscue analysis. It was possible to describe strategies and skills and identify some areas that were handled differently by the more as compared to the less proficient.

Knowledge of alphabet names, sophisticated and abstract phonological skills, and ability to vary strategies to suit different task demands and to chunk incoming information were characteristics of the more proficient. Use of syntactic and semantic cues may be powerful self-teaching devices, but cannot be employed till enough words can be recognized or decoded to know what the context is. Parellel development of higher and lower level processes may support and strengthen each other.

Other subskills related to reading are scattered. It seems each individual's development pattern was different. But the high rate of ceiling effects made it difficult to determine what stages the young

readers had been through in order to attain their current high level of ability. Young readers are rarely identified or described at beginner level.

Further research may try to avoid this problem by examining a wide population of preschool children and tracing developments of emergent literacy, beginning reading and fluent reading in them. Several styles of reading age tests should be used, as well as subskill tests and miscue analysis to gain both a broad spectrum of strategies and an in-depth view. A modified version of miscue analysis may be useful with two or more age-appropriate stories to generate sufficient miscues and repetitions not coded as errors.

The assumption that children will learn to speak but need to be taught to read may not be valid if written language were presented encouraged, used and induced in a similar manner to oral language. Immersion in a print-rich environment without pressure or hierarchical structure of input, but rather encouraging play with printed language has induced early literacy for some young children. Theorists of reading and teachers need to know why and how these young readers are so successful.

8 BIBLIOGRAPHY

Anderson, J — "New Miscue Analysis: A Tool for Comprehending Reading" Reading Education 6,2, Spring 1981, pp5 -13.

Anthony, E J — "The Syndrome of the Psychologically Invulnerable Child" in The Child in His Family , ed E James Anthony and Cyrille Koupernik, vol III Children at Psychiatric Risk Wiley & Sons, New York, 1974, pp 3 - 10.

Barr, R — "Influence of Instruction on Early Reading" Interchange 5, 4, 1974, pp 13 - 22.

Biemiller, A — "The Development of the Use of Graphic and Contextual Information As Children Learn to Read" Reading Research Quarterly 6, 1, 1970 pp 75 - 96.

Biemiller, A — "Relationships between Oral Reading Rates for Letters, Words and Simple Text in the Development of Reading Achievement" Reading Research Quarterly 13, 2, 1981, pp 223 - 53.

Borque, M L — "Specification and Validation of Reading Skill Hierarchies" Reading Research Quarterly 15, 1980, pp 237 - 76.

Briggs, C and Elkind, D — "Cognitive development in Early Readers" Developmental Psychology 9, 1973, pp 279 - 80.

Briggs, C and Elkind, D — Characteristics of Early Readers unpublished manuscript cited by Torrey, J (1979) op cit p 119.

Burke, C — "Preparing Elementary Teachers to Teach Reading" in K S Goodman ed Miscue Analysis; Applications to Reading Instruction National Council of Teachers of English, Urbana, 1973.

Chall, J — Learning to Read: The Great Debate McGraw Hill, New York, 1967.

Clark, M — Young Fluent Readers Heinemann Educational Books, London, 1976.

Clay, M — "A Syntactic Analysis of Reading Errors" Journal of Verbal Learning and Verbal Behaviour 7, 1968, pp 434 - 38.

Clay, M — "Reading Errors and Self-correction Behaviour" British Journal of Educational Psychology 39, 1968, pp 47 - 56.

Coltheart, M and Doctor, E — "Children's Use of Phonological Recoding When Reading" Memory and Cognition 8, 1980, pp 195 - 209.

Daniels, J and Diack, H — The Standard Reading Tests Hart-Davis Education, St. Albans, 1958.

Durkin, D — Children Who Read Early Teachers College Press, New York, 1966.

Ellis, D — The Cognitive Development of Early Readers Ed. D. Dissertation, Northern Illinois University, 1975.

Evans, J and Smith, L — Some Psycholinguistic and Perceptual-motor Characteristics of precociously reading Children unpublished manuscript cited in Torrey, J (1979) op cit p 119.

Gates, A and McKillop, A — Gates-McKillop Reading Diagnostic Tests Teachers College Press, Columbia University, New York, 1962.

Goodman, Y — A Psycholinguistic Development of Observed Oral Reading Phenomena in Selected Young Beginning Readers Ph. D., Dissertation, 1968. Dissertation Abstracts 29160A

Goodman, Y and Burke, C — Reading Miscue Inventory Macmillan Publishing Co., New York, 1972.

Hiebert, H — "Developmental Patterns and Interrelationships of Preschool Children's Print Awareness" Reading Research Quarterly 17, 2, 1981, pp 236 - 60.

Holdaway, D — Literacy and Early Childhood Ashton Scholastic, Sydney, 1981.

Huey, E — The Psychology and Pedagogy of Reading Macmillan Company, New York, 1908.

Isaacs, N — Children's Ways of Knowing ed by Mildred Hardeman. Teachers College Press, New York, 1974.

Jorm, A and Share — "The role of phonological coding in learning to read" Applied Psycholinguistics in press.

Kibby, M W — "Passage Readability Affects the Oral Reading Strategies of Disabled Readers" The Reading Teacher 34, 1979, pp 390 - 96.

King, E and Friesen, D — "Children who Read in Kindergarten" The Alberta Jounral of Educational Research 18, 1972, pp 147 - 61.

Kintsch, W and Van Dijk, T A — "Toward a Model of Text Comprehension and Production" Psychological Review 85, 5, 1978, pp 363 - 94.

Kirby, J Moore, P and Cousins, E — "How, Why and When do Children use what Kind of Meaning in Reading?" in Proceedings of Australian Association for Research in Education, 1979 Annual Conference A.A.R.E.,, Melbourne, 1979, pp 249 - 60.

Kolers, P — "Reading is Only Incidentally Visual" in Psycholinguistics and the Teaching of Reading ed K Goodman and J Fleming. International Reading Association, Delaware, 1969.

Mason, J — "When do Children Begin to Read: an Exploration of Four Year Old Children's Letter and Word Reading Competencies" Reading Research Quarterly 15, 2, 1980, pp 203 - 27.

Mayne, L — "An individual Study of the Reading acceleration of Two Kindergarten Children" Elementary English 40, 1963, pp 406 - 8.

McCracken, R — "A Two Year Study of the Reading Achievement of Children who were Reading When they Entered First Grade" The Journal of Educational Research 59, 1966, pp 207 - 10.

Morrison, C Harris, A M and Auerbach, I — "The Reading Performance of Disadvantaged Early and Non-early Readers from Grade I through 3" The Journal of Educational Research 65, 1971, pp 23 - 26.

Plessas, G and Oakes, C — "Pre-reading Experiences of Selected Early Readers" The Reading Teacher 17, 1964, pp 241 - 45.

Read, C — "Preschool Children's Knowledge English Phonology" Harvard Educational Review 41, 1, 1971, pp 1 - 34.

Reilly, M — "An Explanation of Play" in Play as Exploratory Learning , ed by M Reilly. Sage Pubs., London, 1974.

Sakiey, E, Fry, E, Goss, A and Loigman, B — "A Syllable Frequency Count" Visible Language 14, 2, 1981 pp 137 - 50.

Schonell, F — Reading Tests: Handbook of Instructions Oliver and Boyd, Edinburgh, 1955.

Silberg, N and Silberg, M — "Hyperlexia: the Other End of the Continuum" Journal of Special Education 5, 1971, pp 233 - 42.

Smith, F — Psycholinguistics and Reading Holt, Rinehart and Winston, New York, 1973.

Smith, F — Understanding Reading 2nd ed Holt, Rinehart and Winston, New York, 1978.

Smith, F — "Conflicting Approaches to Reading Research and Instruction" in Issues and Innovations in Education for Literacy , Readings 1, RLA 4023, Riverina College of Advanced Education, 1981.

Söderbergh, R — Reading in Early Childhood Kungl. Boktrucker P. A. Norstedt & Soner, Stockholm, 1971.

Southgate, V, Arnold, H and Johnson, S — Extending Begining Reading Schools Council Project, Heinemann, London, 1981.

Stanovich, K — "Toward an Interactive-compensatory Model of Individual Differences in the Development of Reading Fluency" Reading Research Quarterly 16, 1, 1980, pp 32 - 71.

Taba, H — With Perspectives on Human Rights American Council on Education, Washington, 1955.

Torrey, J "Learning to Read Without a Teacher, A Case Study" Elementary English 46, 1969, pp 550 - 56.

Torrey, J "Reading that Comes Naturally - the Early Reader" Reading Research: Advances in Theory and Practice vol 1, Academic Press, New York, 1979.

Weber, R "First Graders' Use of Grammatical Context in Reading" in H Levin and J Williams ed Basic Studies in Reading Basic Books, New York, 1970 pp 147 - 62.